

DOCUMENT RESUME

ED 070 224

24

EC 050 268

AUTHOR Kafafian, Haig
TITLE Study of Man-Machine Communications Systems for Disabled Persons (The Handicapped). Volume V. Final Report.
INSTITUTION Cybernetics Research Inst., Inc., Washington, D.C.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
BUREAU NO BR-7-0533
PUB DATE Jun 71
GRANT OEG-2-7-070533-4237(607)
NOTE 208p.
EDRS PRICE MF-\$0.65 HC-\$9.87
DESCRIPTORS Cybernetics; Electromechanical Aids; *Exceptional Child Education; *Instructional Materials; Lesson Plans; *Physically Handicapped; *Teaching Guides; *Typewriting

ABSTRACT

Instructions are given for teaching severely physically and/or neurologically handicapped students to use the 14-key Cybertype man-machine communications system, an electric writing machine with a simplified keyboard to enable persons with limited motor ability or coordination to communicate in written form. Explained are the various possible configurations of Cybertype interfaces or keyboards, and the codes which identify the letters, symbols, and typewriter functions of the different keying positions. A set of 15 lessons for Cybertype instruction are presented, together with training exercises, tests, and supplementary instructional materials (practice exercises to augment the regular lesson plans). Typewriting exercises include practice in such activities as copying of commonly used words and sentences emphasizing certain letters, creative writing, language building, numbers and math symbols, and integrating letters, punctuation, and numerals. (See also EC 030 060, EC 050 266-050 267, EC 050 269-050 270.) (KW)

BR 7-0533
PA 24
EC
C/R/I

ED 070224

C/R/I Final Report

Project No. 18-2003 and 7-0533

Grant No. OEG2-7-070533-4237(607)

STUDY OF MAN-MACHINE COMMUNICATIONS SYSTEMS FOR DISABLED PERSONS (THE HANDICAPPED)

VOLUME V

HAIG KAFAFIAN

CYBERNETICS RESEARCH INSTITUTE

2233 WISCONSIN AVENUE, N.W.
WASHINGTON, D. C. 20007

June 19, 1971

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
BUREAU OF EDUCATION FOR THE HANDICAPPED

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The research reported herein was performed pursuant to a grant with the OFFICE OF EDUCATION, U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE. Grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official OFFICE OF EDUCATION position or policy.

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C/R/I FINAL REPORT

**Project No. 18-2003
Grant No. OEG2-7-070533-4237**

**EXPERIMENTAL INSTRUCTIONAL MATERIALS
FOR C/R/i FIELD CENTERS**

Volume V

HAIG KAFAFIAN

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Washington, D. C. 20007**

June 19, 1971

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WASHINGTON, D. C.

Library of Congress Catalog Card Number 70-180731
Printed in the United States of America

INSTRUCTION MANUAL FOR 14-KEY "CYBERTYPE"
MAN-MACHINE COMMUNICATIONS SYSTEM

First Edition

This volume together with those listed below comprise the series of reports, demonstration guides, evaluative procedures, and instructional and training materials prepared under Project Nos. 7-0533 and 18-2003, Grant No. OEG 2-7-070533-4237 (607), for the Bureau of Education for the Handicapped, Office of Education, Department of Health, Education, and Welfare.

C/R/I Interim Report, 1968	Interim
C/R/I Second Report, 1970	Volumes I and II
C/R/I Final Report, 1971	Volume III
C/R/I Demonstration Guide and Materials.	Volume IV
C/R/I Instruction Manual for 14-Key "Cybertype"	
Man-Machine Communications System	Volume V
C/R/I Instruction Manual for 7-Key "Cybertype"	
Man-Machine Communications System	Volume VI
C/R/I Instruction Manual for a "Cybertype"	
Tongue-Body Interface Man-Machine	
Communications System.	Volume VII

A master errata sheet will be compiled from these volumes, and sent to their recipients. Your suggestions and help will make the experimental volumes more useful to researchers, teachers, and other readers, and will be of great value in preparing any revisions.

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PREFACE

INSTRUCTION MANUAL FOR

CYBERTYPE® MAN-MACHINE COMMUNICATIONS SYSTEM

14-KEY INTERFACES

This first edition of the instruction manual for the 14-key "Cybertype" interfaces was designed as a guide for introducing the keying-codes and experimental teaching programs to researchers and teachers at the C/R/I Field Centers working with severely physically and/or neurologically handicapped students who have the cognitive resources to learn, who know the English alphabet, and who have comprehension of word formation and sentence structure.

The introductory section includes, among others, descriptions of various types and configurations of "Cybertype" interfaces or "keyboards" and codes which assign letters, symbols, and typewriter functions to the keying positions of the interfaces. Illustrations of keying positions, and the organization of lesson plans are presented.

Lesson plans for Cybertype® instruction and a set of Supplementary Instruction Materials are also part of this Instruction Manual. The teacher is encouraged to modify the contents in order to meet the students' requirements. The format is straightforward and can be followed in the event changes are made.

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C/R/I INSTRUCTION MANUAL FOR CYBERTYPE™
COMMUNICATIONS SYSTEMS*

INTRODUCTION

Physically handicapped children and children with neurological dysfunctions are often unable to provide the muscular coordination and dexterity necessary to communicate in written form, either by handwriting or by operating the 49 keys of an ordinary electric typewriter. These handicaps especially when accompanied by language impairments and specific learning disabilities, severely impede further development of intellectual and verbal potentialities. As a result, many multiply handicapped individuals, especially children who potentially have the intellectual competence to become self-sufficient contributing members of society, are institutionalized because their motor capabilities appear too limited for independent and practical functioning.

In spite of the apparent hopelessness of many children with multiple handicaps, it has been demonstrated that it is often possible to employ cybernetic systems which permit use of the individual's remaining motor capabilities.

Cybernetics Research Institute (C/R/I) is presently conducting

*This Instruction Manual is intended for research purposes only, and is not intended to represent the final version which is in the process of being developed.

1. Kafafian, Haig. Study of Man-Machine Communications Systems for the Handicapped. U.S. Office of Education, Bureau of Education for the Handicapped, Project No. 7-0533, C/R/I Interim Report, August 19, 1968.
2. Kafafian, Haig. Study of Man-Machine Communications Systems for the Handicapped. U.S. Office of Education, Bureau of Education for the Handicapped, Project No. 18-2003, C/R/I Second Report, February 19, 1970.

research for the purpose of studying severely disabled students' ability to communicate by means of the CYBERCOM™ family of man-machine systems. Children who have the cognitive ability but whose other disabilities preclude cursive writing or operation of ordinary typewriters are being studied through observation and testing. Where possible, man-machine systems are provided to the students with interfaces which match the students' remaining performance characteristics, thereby enabling them to operate electric writing machines and/or other communication and control systems.

The materials presented in the C/R/I Instruction Manual are also intended to serve the teacher of exceptional children as an introduction to a teaching guide for "Cybertype" man-machine communications systems, and provide them with an organized program of instruction for these systems together with appropriate training, testing and exercise materials. The C/R/I Manual is also intended for use as a guide in teaching children individually or in groups. Care should be taken in selections of the appropriate interface or "keyboard" and special instructional materials, if necessary. Substitute exercises and other special materials, if needed, should be determined by the teacher or researcher.

Description of Basic "Cybertype" Keyboards or Interfaces *

The basic characteristics underlying the "Cybertype" system involve the concept of "dual-input". That is, instead of requiring operation of one key at a time to produce typed letters, symbols, or functions, as with an ordinary typewriter keyboard, the "Cybertype" systems operate from dual-inputs which may be bilaterally or unilaterally controlled.

Two inputs must be provided, that is, two keys (or one key which serves the purpose of two keys) are operated at one time, or they may be operated in sequence. Although dual-input operation may seem unusual at first, as compared to single-input operation, dual-input systems offer the advantages of simplified keyboard arrangement and flexibility permitting interface matching to the performance characteristics of the human operator. Another advantage, and an important one, is that the

*The term "interface" here refers to the keyboard or control mechanisms which are the point of contact between user and typewriter. In the case of an ordinary electric typewriter, the keys of the 49-key keyboard may be identified as the "interface". With a "Cybertype" system, which is for a typewriter or other office or computational machines, the 14-key, 7-key, or 2-key keyboards or single-key control, or other interface configurations constitute the interface.

keying code is easy to remember. With a little practice, the users do not have to refer to charts or marked keys once they have learned the code. Only two basic coding relationships are necessary to remember, e.g., 1 and 1 for the typewriter "space" function, 1 and 2 for the letter E, 1 and 3 for the letter T, 1 and 4 for the letter A, etc.

Interface Configurations

One configuration of the 14-key "Cybertype" keyboard interface consists of 14 finger or prostheses-operated keys, arranged in two groups of 7 keys each, as shown in Figure 1. Typically, key-tops on this type of interface are $1/2 \times 1/2$ inch in size, with a lateral separation between keys of one inch center-to-center. For purposes of identification, keys are numbered from 1 to 7 in right and left hand banks (See Figure 1). This numerical identification of keys should be remembered, since it will be referred to frequently in this Manual. Some keyboard interfaces include an ON/OFF toggle switch and pilot light, as shown in Figure 1.

The 14-key keyboard is electrically connected to an electric typewriter which provides the printed output. Each letter, symbol or function to be produced is assigned to a pair of keys, one key in each of the two banks.

In this configuration of the dual-input interface, two keys are operated together using a finger of the right hand for the keys identified as the "Function Keys" or the right bank of keys, and a finger of the left hand for the left bank identified as the "Control Keys." It has been found that many students who lack the manual coordination and dexterity necessary to strike individual keys on the 49-key interface of an ordinary typewriter, can, with little difficulty, strike pairs of keys on the 14-key, dual-input interface, using one finger of each hand, prostheses, or other parts of the body when, larger keyboards are used. The small area to be covered, the minimum number of keys on the interface, the large key-tops and spacing of keys, the ease of learning the keying positions, and the minimum coordination required, bilaterally or unilaterally, are all factors which may contribute to the ease with which the "Cybertype" can be operated by individuals who are physically and/or neurologically disabled, but who have the cognitive and sensory capabilities.

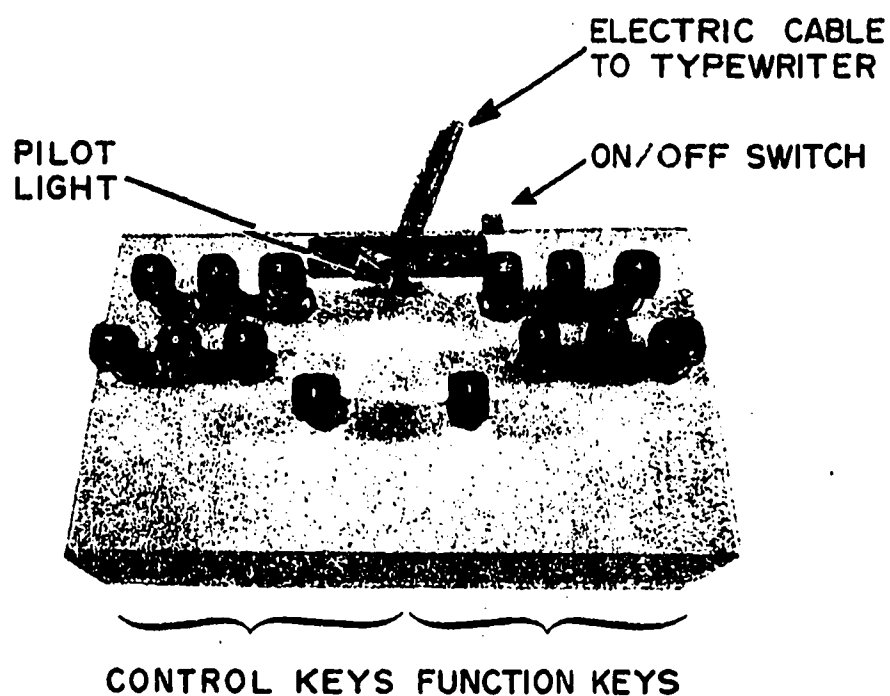
Interface Coding

The code assigning letters to pairs of keys of most of the interfaces is based on the frequencies of letter usage in the English language. Although various studies have revealed slight differences in letter frequencies, the "Cybertype" code described in this Manual is based on the following order of letters from most frequent to least frequent:

ETAONIRSHDCLMUFPYBGWVJKQZX¹⁰

Figure 1

"Cybertype," 14-Key, Dual-Input
Interface for Finger Operation



For a right hand dominant individual, each of the six most frequently used letters (E-T-A-O-N-I) and the typewriter "space" function can be produced by activating one key on each side of the keyboard. As shown in Figure 2, these letters and functions are produced by activating Key No. 1 of the left bank of keys, combined with individual keys of the right bank. For identification and descriptive purposes as noted earlier, the seven keys on the left side of the interface are referred to as "Control Keys" and the seven keys of the right group are referred to as "Function Keys" (Figure 1).

The other letters and the "period" are assigned to the second, third, and fourth control keys on the left side of the interface, paired with "Function Keys" of the right-hand bank (Figure 2). Numerals, other symbols and typewriter functions are assigned to "Control Keys" 5, 6, and 7 (see Figure 3).

The assignment of certain typewriter symbols, such as "!" and "+" depends on the model of typewriter used with the "Cybertype." The code for numerals, symbols, and functions shown in Figure 3 applies to the IBM* "Selectric" typewriter with "Prestige Elite," "Courier," "Letter Gothic," or "Delegate" type styles. The code for the IBM Models C and D differ slightly.

Through the use of a "code-reversal junction box," which connects the interface(s) to a "cybertypewriter," the key assignments for left and right-hand key groups can be interchanged, for operation by a left-hand dominant individual.

This Instruction Manual is meant for right-hand dominant individuals, and the "Control Keys" on the left side of the interface and "Function Keys" on the right side should be "reversed" if the students are left-handed. Thus, for a left-hand dominant student, the teacher may use the "code-reversal junction box" in place of the usual junction box, thereby shifting the "Control Key" positions to the right side and the "Function Keys" to the left side of the "Cybertype" keyboard. It is important to note that no data is available at this time to support this reversal and teachers may be guided accordingly.

Other Interface Configurations

Interface configurations other than the 14-key, finger-operated keyboards are employed where they more effectively match the remaining performance capabilities of the individual. For example, many persons lack

*Trademark - International Business Machines Corporation, Armonk, N. Y.

Figure 2

Keying Positions for Letters,
Typewriter Space, and Period
with the "Cybertype," 14-Key Interface

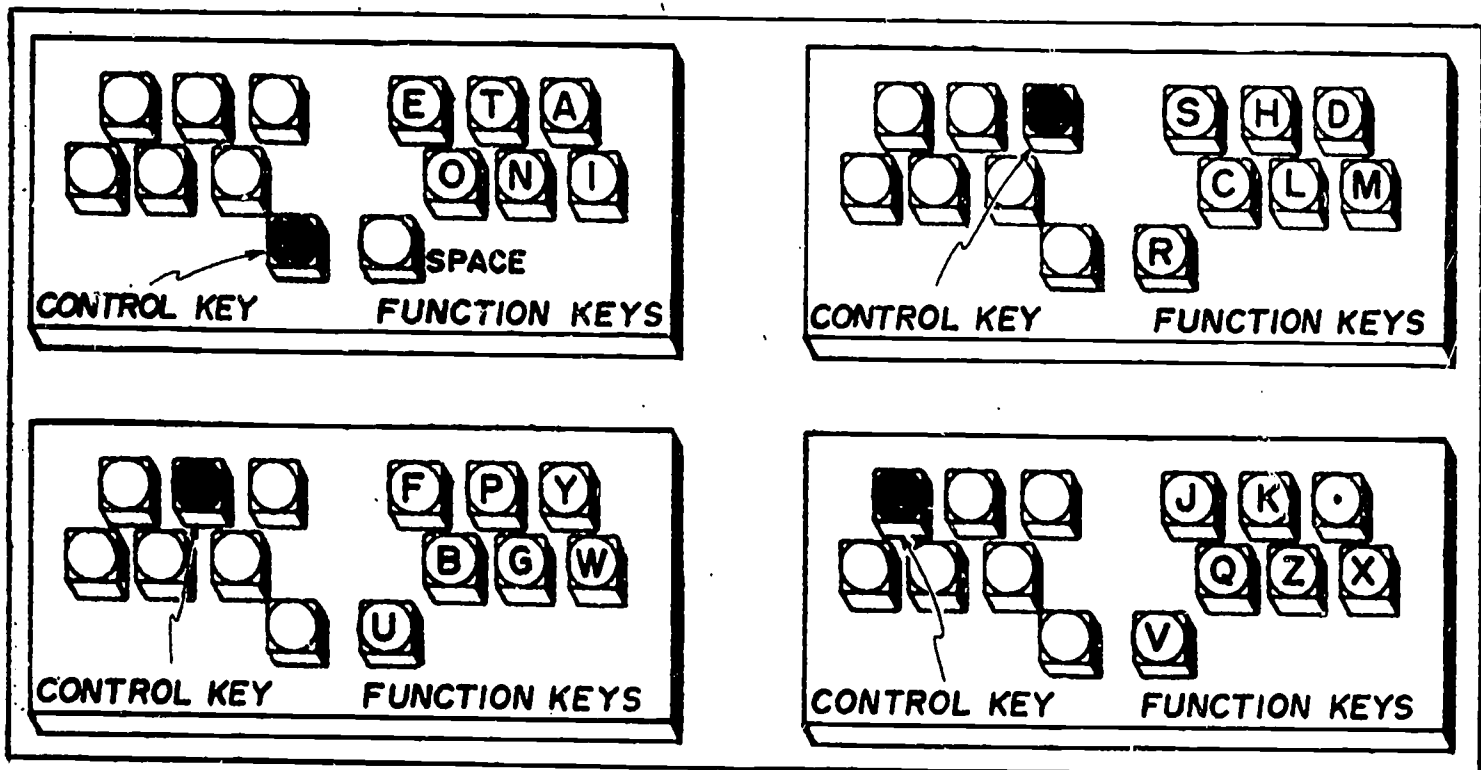
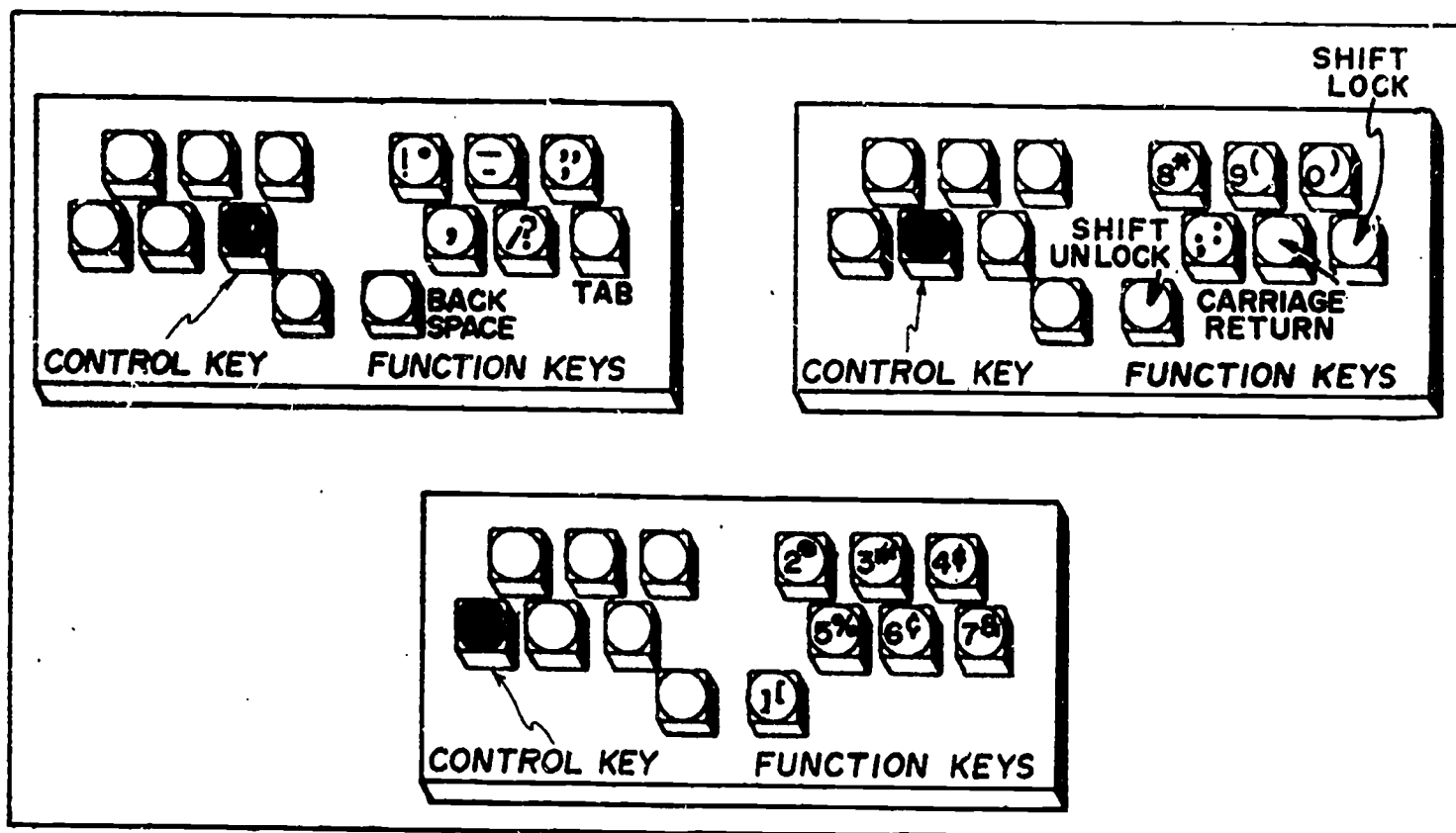


Figure 3

Keying Positions for Numbers,
Symbols, and Typewriter Functions
with the "Cybertype," 14-Key Interface



the coordination and dexterity necessary to operate keys with their fingers, but retain some control to provide gross motor coordination in hands and arms. They may be provided with "fist-controlled" interfaces, one configuration of which consists of 14 large keys with wide spacing, and key-tops with a diameter of one inch and a lateral separation between keys (center-to-center) of two and a quarter inches (see Figure 4). This configuration can be operated with the parts of the upper limbs, e g., thumbs, fingers, fists, or heels of the hands.

Another type of interface, the "foot-keyboard," consists of key-tops with a diameter of one and a half inches, and a center-to-center lateral separation of three inches (Figure 5). These interfaces can be operated with the fists, heels of the hands, or other parts of the body by persons whose manual coordination is not sufficient for the smaller fist keyboard. In addition, they can be operated with the feet by individuals with virtually no ability to coordinate arm movements, or by upper-limb amputees. For foot-operation, the interface is placed in an appropriate position, either on the floor or a stand, with the user seated in a chair adjusted to the proper height so that the weight of the legs is supported by the edge of the seat, and feet "float" just at the level of the key-tops. In this position, keys can be actuated by simple toe depressions.

Since the configuration or spatial arrangement of keys in these interfaces is similar to that shown in Figure 1, the letter-keying code is as shown in Figures 2 and 3.

The Cybertype Unilateral Keyboards

Individuals who are unable to provide controlled bilateral coordination in arms, legs, or other parts of the body, employ the dual-input sequential interfaces, which consist of seven typing "Function Keys" and a "reset" or "correction" key. These interfaces require the use of only one part of the body, such as the tongue, a single limb, or other portion of the body which can be controlled.

The 7-key keyboards, two versions of which are shown in Figure 6, may be operated by actuating two keys, constituting a pair, sequentially. The first key depressed may be considered to correspond to the left bank or the "Control Key" side of a 14-key interface, and the second key depressed to the right bank or "Function Key" side of a 14-key interface. Thus, striking Key No. 1 followed by Key No. 2 will produce the letter "E." As with a 14-key interface, there are 7 x 7 or 49 possible pairs of dual-inputs which allow production of all the characters and functions available on the typewriters used. See Figure 6.

Figure 4
"Cybertype," Dual-Input Interface for
Fist or Hand Operation

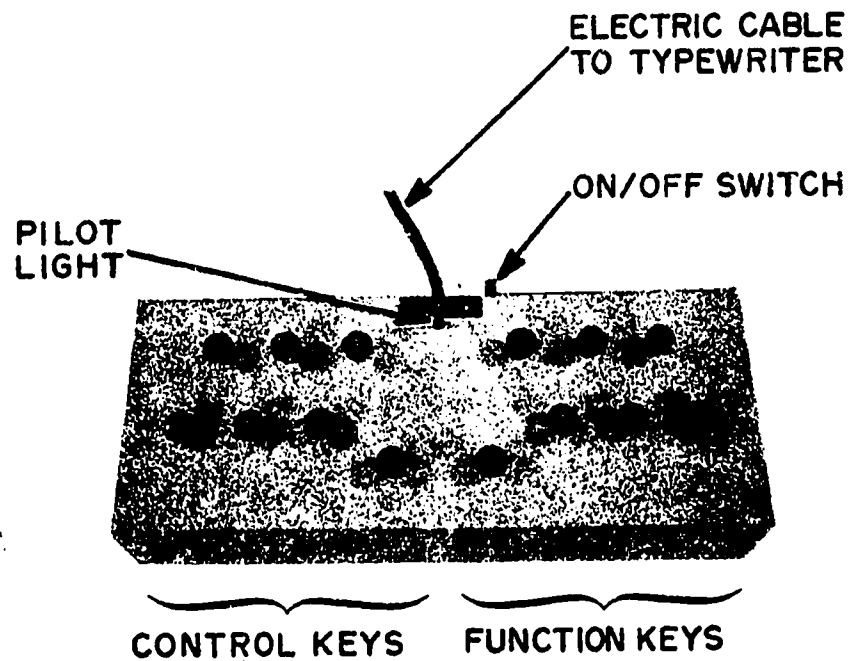


Figure 5

"Cybertype," Dual-Input Interface for
Fist or Foot Operation

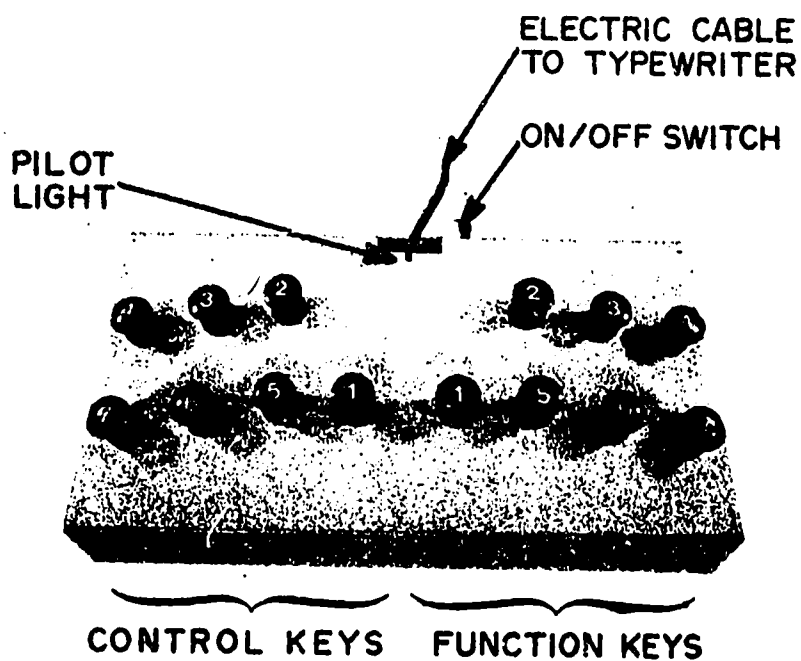
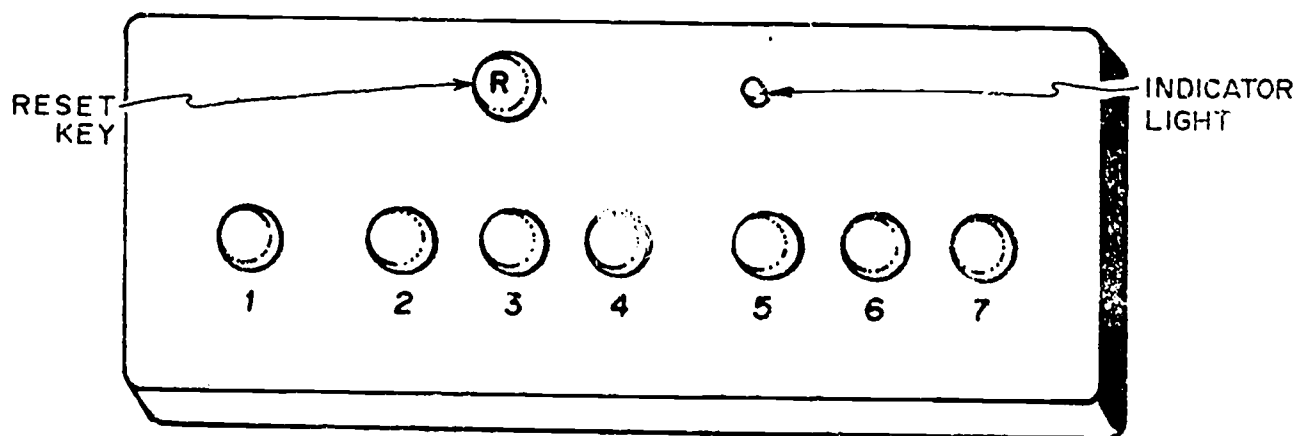
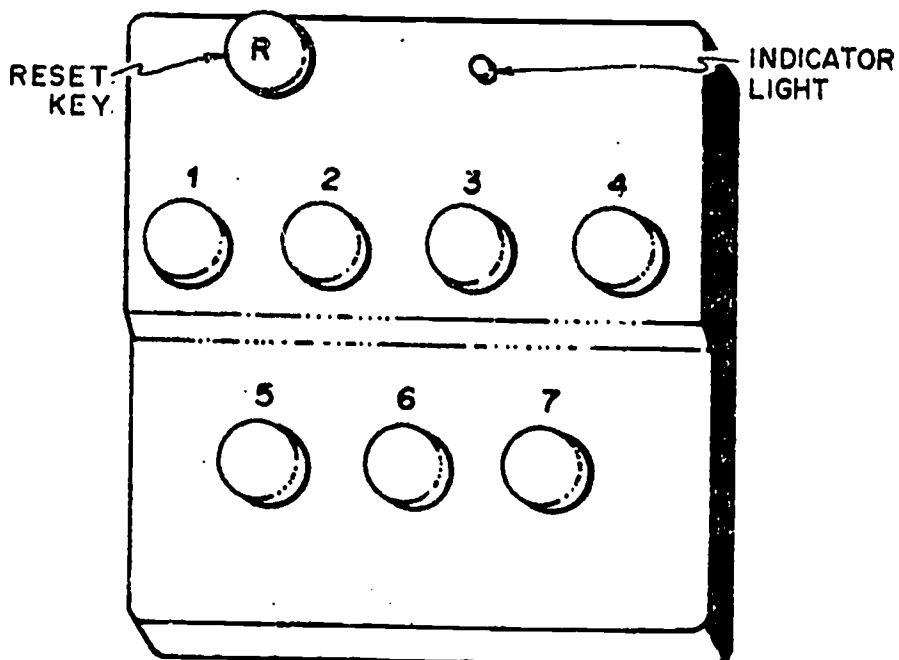


Figure 6

"Cybertype," Dual-Input Sequential Interface
for Operation with a Single Limb



a) Dual-Input Sequential Interface: Single Row



b) Dual-Input Sequential Interface: Double Row

Figure 7

Letter-Keying Code for 7-Key, Dual-Sequential Interface

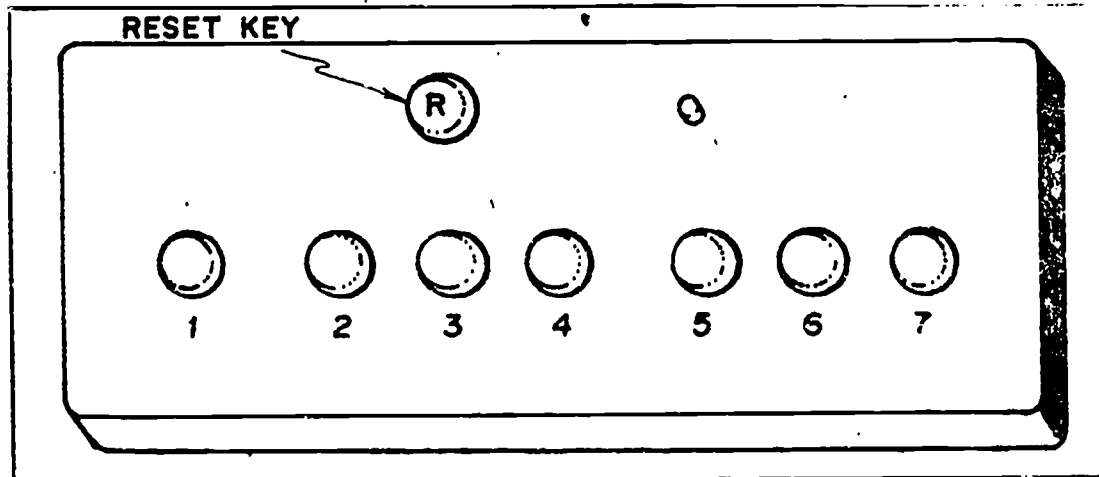


Diagram of 7-Key, Dual-Sequential Interface

Typewriter Functions		Dual-Sequential Keying Code First and Second Key Nos.
LC*	UC**	
	Space	1, 1
e	E	1, 2
t	T	1, 3
a	A	1, 4
o	O	1, 5
n	N	1, 6
i	I	1, 7
r	R	2, 1
s	S	2, 2
h	H	2, 3
d	D	2, 4
c	C	2, 5
l	L	2, 6
m	M	2, 7

* Lower Case

**Upper Case

Typewriter Functions		Dual-Sequential Keying Code
LC*	UC**	First and Second Key Nos.

u	U	3, 1
f	F	3, 2
p	P	3, 3
y	Y	3, 4
b	B	3, 5
g	G	3, 6
w	W	3, 7
v	V	4, 1
j	J	4, 2
k	K	4, 3
.	.	4, 4
q	Q	4, 5
z	Z	4, 6
x	X	4, 7

Back		
Space		5, 1
!	°	5, 2
-		5, 3
'	"	5, 4
,		5, 5
/	?	5, 6

Tab		
Function		5, 7

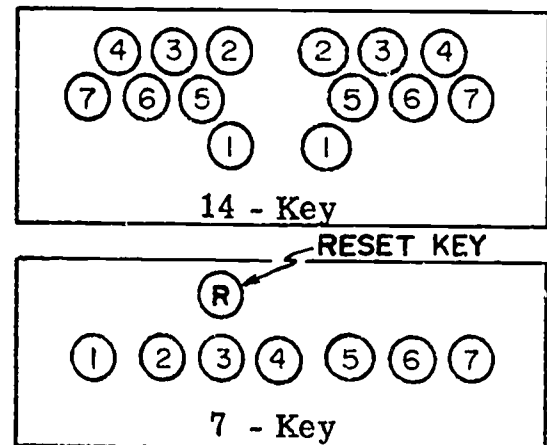
LC* ("Shift		
Unlock")		6, 1
8	*	6, 2
9	(6, 3
0)	6, 4
;	:	6, 5
Carriage		
Return		6, 6
UC* ("Shift		
Lock")		6, 7

* Lower Case
**Upper Case

Typewriter Functions		Dual-Sequential Keying Code First and Second Key Nos.
LC*	UC**	
]	[7, 1
2	@	7, 2
3	#	7, 3
4	\$	7, 4
5	%	7, 5
6	¢	7, 6
7	&	7, 7

* Lower Case

**Upper Case

Outline showing key-identifications
7 and 14-Key Keyboards

If the incorrect "Control Key" is depressed inadvertently, the "reset key," which is located near the rear edge of the interface as shown in Figure 6, may be struck in order to clear the system immediately. After the "reset key" is depressed, the correct first key of the key-pair can be actuated, followed by the keying of the second key of the key-pair assigned to the desired letter. If there is an error on the first key struck, "automatic correction" may be achieved without use of the "reset key." All that is required is that the user wait until the red "indicator light" located on the keyboard goes out.

The red "indicator light" (shown in Figure 6) is always illuminated upon initial striking of the first key of each key-pair keying combination. When the second key of the key-pair is actuated, the typed response or typewriter function occurs and the "indicator light" goes out by itself.

The letter-keying code for the 7-key, dual-sequential interface is equivalent to that for the 14-key systems, and is shown in Figure 7. The 7-key interface configurations offer considerable flexibility and can be operated not only with a fist, foot, or tongue, but also with a "unicorn," a helmet-mounted stick, or "mouth stick." The interface shown in Figure 6b (4 keys in the upper row, 3 keys in the lower row) consists of somewhat larger key-tops and is suitable for operation by persons who have limited control.

The styles and types of keyboards or interface configurations for use

with the "Cybertype" writing machines are almost unlimited. Variations of muscle and body-controlled transducers or keyboards operable from signals generated by the central nervous system, tongue-controlled keyboard, "joy-stick," glove, and lever-actuated switches, together with numerous other interface configurations operable with the aid of prostheses or orthoses can be selected to match the remaining motor capabilities of the disabled person.

Organization of Lesson Plans

This Instruction Manual is organized into 15 lessons. Each lesson should generally last about one hour, and one lesson should be given each day, four or five days a week. This is based on the experience of teachers who have had a high degree of success with their students, all of whom have been children with multiple impairments.

When working with a group of students, a prerequisite is that the teacher, with the aid of each student, select the appropriate interface out of the set of interfaces provided with the system. If only one writing machine in the classroom is available, all of the students' and the teachers interfaces may be connected to it, as shown in Figure 8. Children may be introduced as a group or individually to the teacher's demonstration of the keying positions of the appropriate keyboard or interface. They should practice operating the interface selected for their use following the procedures enacted by the teacher.

During these group practice sessions, those interfaces which are not used to operate the "Cybertypewriter" are either disconnected from the junction box or if equipped with switches, they are turned off. Each student can then be given individual attention in practicing the exercises which accompany each lesson, with or without activating the "Cybertypewriter." At individual practice sessions the student's interface switch is connected to the junction box or turned "on," so that the desired exercises are typed.

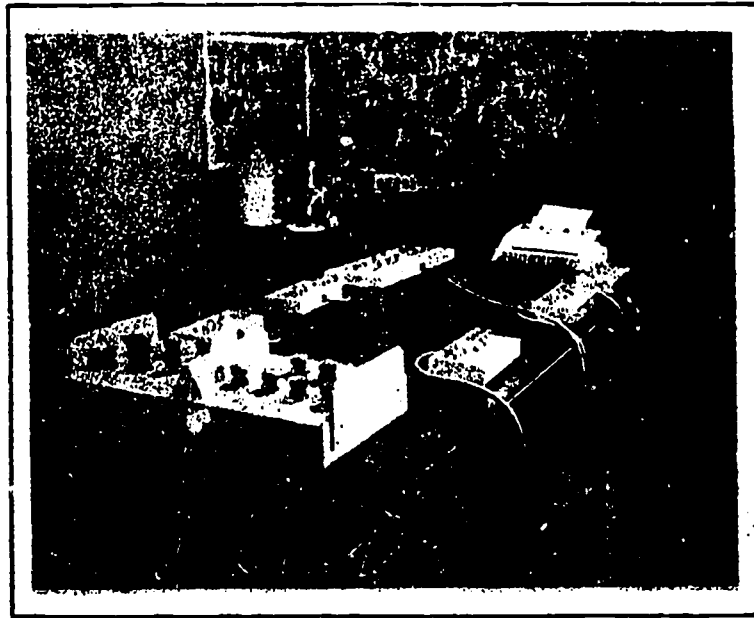
In the meantime, other students whose interfaces are turned "off" are not precluded from practicing; they may practice their exercises by "keying" their interfaces, even though no typewritten output is obtained. Ordinarily, more than one "Cybertype" should be in the classroom, and the teacher can observe each member of the group and obtain typewritten copy for each student in the group by looking at the monitor "Cybertype."

Cyber-Circus Story

The Appendices to this Manual include a "mnemonic" or memorization aid called the "Cyber-Circus Story." The characters and events in this story are related to letters and symbols and to their "Cybertype" keying positions.

Figure 8

A Variety of "Cybertype" Interfaces
Connected to a Single Electric
Typewriter for Group Instruction



This story has power to be a valuable aid to memorization with the subjects tested. It appears to develop enthusiasm and increase the student's motivation in learning to use the "Cybertype" and perform more effectively in their other activities. The story is compatible with the lesson plans in this text.

Supplementary Materials

The Appendices include a "Supplementary Materials" section which provides practice exercises to be used in augmenting the exercises included with each lesson. The teacher may review the Supplementary Materials section and select appropriate exercises which would serve as additions to the regular lesson plans.

It is recognized that students' age levels, cognitive, motor, and sensory capabilities contribute toward their rate of progress. The teacher is encouraged to constantly consider these factors and employ a teaching plan which will have the greatest probability of being effective for a particular student or group of students. It should be remembered that all of the experimental instruction materials were developed for a research study and evaluation program, whose principal objective was to determine the feasibility of the "CYBERCOM" man-machine communications systems.

LESSON PLANS
FOR THE
14-KEY (DUAL-CONCURRENT) INTERFACE

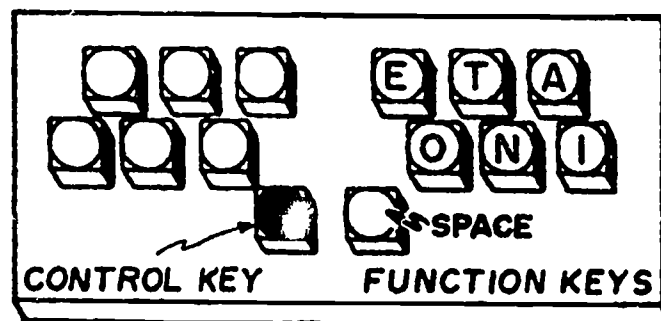
<u>Lesson No.</u>	<u>Page</u>
1	19
2	22
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4	30
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9	43
10	48
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12	52
13	57
14	63
15	67

LESSON 1

Before teaching students any of the "Cybertype" letter-keying "associations," introduce them to the electric writing machine by explaining how it operates. One way to simplify this task is to demonstrate the similarity of keys on the keyboard to electric light switches. For example, you may point out and explain that when one of the light switches is turned on, somewhere in the room a light "comes on." Similarly, when keys of a keyboard are depressed, letters or symbols to be typed appear.

Teachers are urged to review the C/R/I Second Report* for details and descriptions of other "Cybertype" instructional programs.

The functions to be introduced in this first lesson are: "Space," E, O, T, N, A, I. Note that Control Key No. 1 for the left hand is used to produce these characters.



Students should be shown the locations of these seven functions (in the order presented above), and should be given time to copy the "Dexterity Exercises" found on the student practice sheet (page 21). The practice exercises are provided on separate pages for your convenience.

*Available from the Librarian, Cybernetics Research Institute, 2233 Wisconsin Avenue, N. W., Washington, D. C., 20007.

If desired, these pages can be reproduced and presented to students for copying. If you are working with a group of children, copies of these exercise sheets should be provided for each student.

The "Dexterity Exercises" are designed to give students practice necessary in learning which keys produce which letters. Since repetition is essential in learning the letter-keying associations, each student should practice the exercises until she or he has thoroughly memorized the code for letters presented in the lesson.

After memorization, proceed to the "Practice Sentences" in Part 2 of the exercise sheet, and have each child type each sentence in the order shown. This part of the lesson gives students a chance to learn how their keyboards can be used to produce printed words in the context of meaningful sentences.

Note that the exercises in this lesson are presented in capital letters. Therefore, it is advisable to engage the typewriter in the "upper case" (Shift Lock) position so that the letters produced by students will resemble those on their exercise sheets. In a later lesson (Lesson 6), students are introduced to the keying codes for shifting between upper and lower cases.

For students who have not learned how to operate the typewriter "Carriage Return" function, you should do this for them, when necessary, by operating together the middle keys (No. 6) in the lower rows on both sides of the interface (see Figure 3, page 7).

LESSON 1

1. Dexterity Exercises

EEE	OOO	TTT	NNN	AAA	III
AAA	III	TTT	NNN	EEE	OOO
EO	EO	OT	TN	AT	TI
IAN	TOA	EOT	NAI	ONO	ITO

2. Practice Sentences

EAT ONE
I ATE ONE
ANN ATE NINE
TEA AT NOON
IN A TENT
TEA AT TEN
I ATE AN ONION

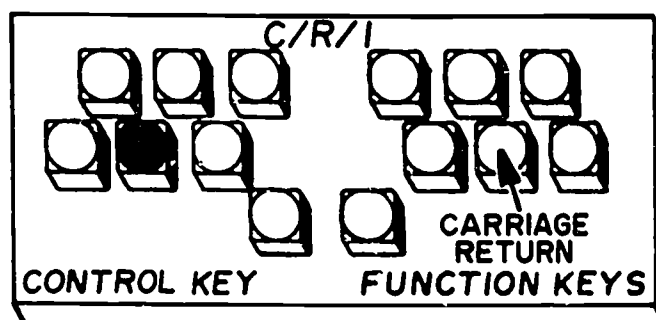
LESSON 2

This lesson is a review of the typing functions learned in the first lesson: "Space," E, O, T, N, A, I. It is important for students to master the keying positions for these functions before proceeding further.

Have students copy the words and phrases provided at the top of the exercise sheet for this lesson. This practice should reveal the extent to which children have remembered functions learned in the previous lesson. If additional practice is necessary, use the exercises for Lesson 1, then return to the "Copy Words and Phrases" for this lesson.

The questions in Parts 2 and 3 on the exercise sheet are designed to stimulate the children's imagination. Students should answer these questions in their own words and to the best of their ability. However, at this early stage, it may be necessary for you to provide some "coaching" or suggestions for these creative exercises.

At this time, introduce the carriage return function to the students.



Demonstrate the keying position for this function and, if necessary, explain the purpose of the carriage return. The carriage return function may be explained to young children as "the mechanism on the typewriter that rolls the paper to a new clean line so that you can continue typing."

Cybernetics Research Institute

Have students practice the carriage return keying position a few times, and thereafter have them use it appropriately when they wish to type a new line of print on the paper.

LESSON 2

1. Copy Words and Phrases

OAT	ONE TOE
NONE	TEN ATE
EATEN	TEA TOO
TON	IN AN INN
AN ANT	EAT AN ONION
NOT ONE	NOON TO ONE

2. What numbers can you spell using only the letters E-O-T-N-A-I? Type them.

3. How many words can you make using only the letters E-O-T-N-A-I? Type them. (You may use the same letter more than once in a word.)

LESSON 3

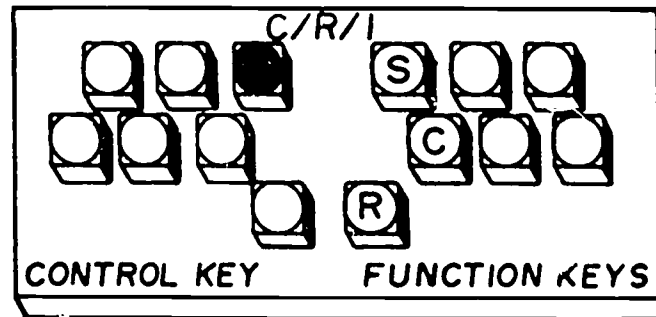
The first "Training Exercise Test" (Training Exercise No. 1 on page 27) should be administered at the beginning of this lesson. It is best to precede the test with a brief review of "Space, E, O, T, N, A, I."

This training exercise must be timed with a stopwatch and be administered according to the following procedure. Each child should be given the exercise individually in a quiet room without distracting noises or movements. It is suggested that the teacher should not use the word "test" in describing these "Training Exercises."

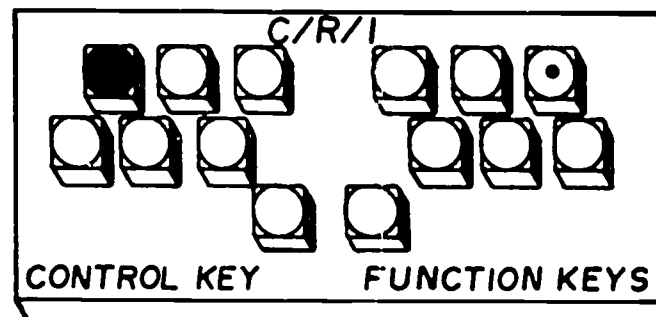
Use your own judgment in wording the instructions for these tests, but give the child directions approximately as follows: "Today, you are going to receive a special exercise so that you too can find out how well you are doing." --- (Place exercise sheet in front of child.) --- "Type the three sentences on this page as fast as you can, but concentrate and try to make a perfect copy."

Let the child see your stopwatch and explain that you want to find out how much time is taken in completing the exercise. Give the child a signal to start, and at the end of one minute, record on the "Scoring Sheet" the letter and word being typed, but do not interrupt the student at this point. Allow the child to continue typing all three sentences in the test and record the total time required to complete the exercise. Let the student know the amount of time recorded by the stopwatch.

Present the new material in this lesson once the test is completed. The functions to be introduced in this lesson are: R, S, C, . (period). Students should first be shown the keying locations of R, S, and C, and be given time to copy the "Dexterity Exercises" found on the exercise sheet on page 29.



After students have completed these exercises, indicate the use and keying locations for the period. Since the period function of the 14-key keyboard requires a different Control Key than the functions R, S, and C, it should be introduced separately. Students will then be prepared to proceed with the "Dexterity Exercises" which include periods, as well as the "Practice Sentences."



TRAINING EXERCISE NO. 1

TEN IN A NET

AT A TONE

NO ONE ATE IT

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No. _____

1. Location in Cybertyping at end of first minute:

Letter _____, **Word** _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 3

1. Dexterity Exercises

RRR SSS CCC

CCC SSS RRR

RS RC SC SR CR CS

RSC SRC SCR CSR CRS RCS

... ..

R. S. C.

.C .R .S

.RCS. ...

2. Practice Sentences

NAN RAN.

ONE CAR IS TAN.

ETTA SITS.

SCOT RACES.

TEN ATE ON A CART.

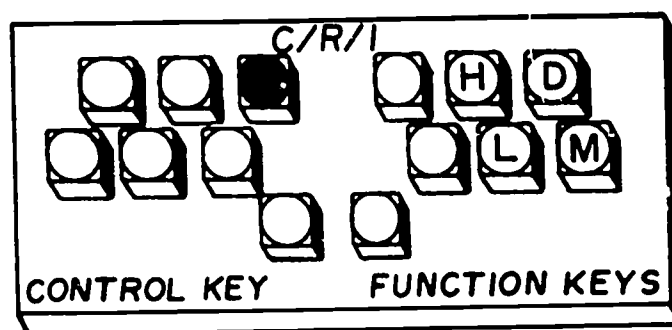
IT SCARES RON.

I CARE.

LESSON 4

In this lesson, students will be taught the remaining four functions of Control Key No. 2. These letters, along with those the students have already learned, will enable them to produce a sizeable word vocabulary.

The letters to be introduced are: H, L, D, M.



Present the key locations for the new letters in the order indicated above. Then have students complete the "Dexterity Exercises" involving these new functions.

Emphasize the fact that Control Key No. 2 for the left hand can produce all seven letters (R, S, C, H, L, D, M). When the children demonstrate that they have learned the keying positions for H, L, D, and M, have them proceed to the "Practice Sentences" in Part 2 of the exercise sheet.

LESSON 4

1. Dexterity Exercises

HHH	LLL	DDD	MMM
HLH	LHL	DMD	MDM
HD	LH	LM	ML
HM	MH	LD	DL
HLD	HLM	DMH	DML
HLDH	HLDH		

2. Practice Sentences

SHE RAN IN THE SAND.
TODD RAN A MILE.
IT IS A MILD MONTH.
LITTLE OLD HENS SIT STILL.
ED HELD IT THREE TIMES.
TOM AND HE HAD SOME.
ANN HAS A COLD NOSE.
SARAH HAS RED SHOES.
CALL AND TELL HER.

LESSON 5

Lesson 5 is a review of Lessons 3 and 4, involving the letters produced by Control Key No. 2: R, S, C, H, L, D, M.

Students should copy the words and phrases at the top of the exercise sheet for this lesson. For additional practice, Part 2 of the exercise sheet involves forming new words from the letters in the word "CHRISTMAS." Part 3 requires the student to make new words from sequences of scrambled letters. It may be necessary for you to modify or even delete these "creative exercises" for one or more students, depending on age and ability. Here again, the judgment of the teacher is invaluable.

LESSON 5

1. Copy Words and Phrases

THE	ROSE
CLAD	MITTENS
CHART	SAD LION
MAIL	LAME HORSE
CLAM	CAR DOOR
CENTS	ADD COCOA
CLOSE	STAND AND CHAT

2. How many words can you make using only the letters in the word CHRISTMAS? Type them.

3. Unscramble the letters below to make new words. Type the words you make.

S-T-E-A	(a direction)
H-T-N-R-O	(another direction)
M-R-T-H-O-E	(someone in your family)
S-E-T-N	(a bird's home)
O-O-T	(a word that means also)

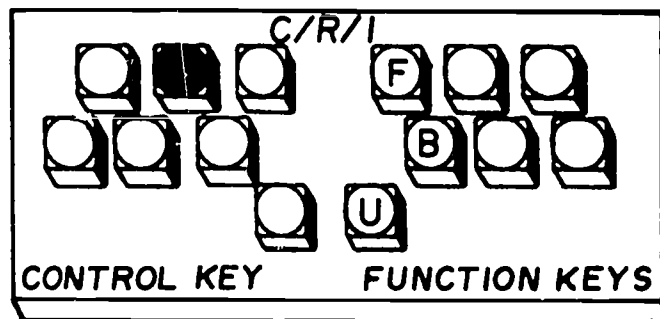
LESSON 6

The second "Training Exercise Test" should be administered at the beginning of this lesson. It is best to precede the test with a brief review of "R, S, C, H, L, D, M, period."

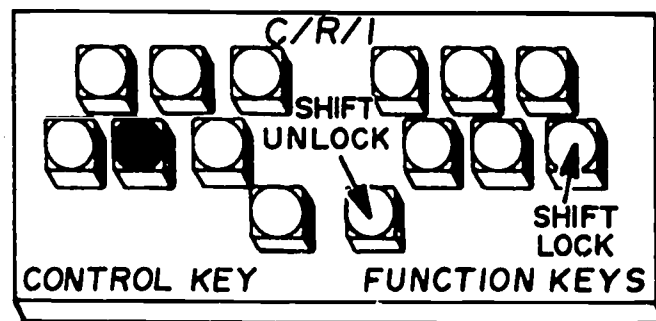
Once the test is completed, present the new material contained in this lesson.

Functions to be introduced in Lesson 6 are: U, F, B, "Shift Lock" and "Shift Unlock."

Students should first be introduced to U, F, and B, produced by Control Key No. 3, then be given time to copy the "Dexterity Exercises" utilizing these letters.



After the children have completed these exercises, show them the keying positions for "Shift Lock" (upper-case) and "Shift Unlock" (lower-case), and have them proceed to the second set of "Dexterity Exercises."



Following the above, students should type the "Practice Sentences" in Part 2 of the exercise sheet.

Thus far, the typewriter has always been placed in the "Shift Lock" (upper-case) position. Starting with this lesson, students will be able to produce upper- and lower-case letters, symbols, and functions by themselves.

Throughout the lesson, emphasize that Control Key No. 3 is used to produce the letters U, F, or B, and that the "Shift Lock" and "Shift Unlock" functions require the use of Control Key No. 6.

TRAINING EXERCISE NO. 2

CATCH MICE.

MOM READS.

LEARN SHORT RIDDLES.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No. _____

1. Location in Cybertyping at end of first minute:

Letter _____, Word _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 6

1. Dexterity Exercises

uuu	fff	bbb			
fff	bbb	uuu			
uf	uf	ub	ub	fb	fb
fu	bu	bf			
ufb	fub	fbu	bfu	buf	ubf
UFB	ufb				
Uu	Ff	Bb			
UfB	uFb				

2. Practice Sentences

Call his bluff.

Ruth has a fur coat.

See the fat buffalo.

It fell behind that board.

Until then Beth felt fine.

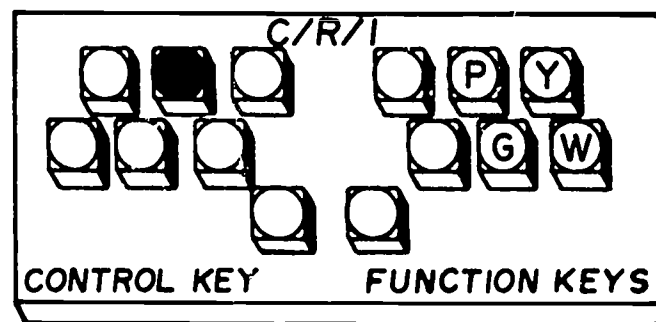
Fred earned a blue ribbon.

Turn left under the tall tree.

LESSON 7

In this lesson, the students are to be introduced to the remaining four functions of Control Key No. 3.

The functions to be introduced are: P, G, Y, W.



As before, students should first be introduced to the letters in the order suggested above. Allow time to complete the "Dexterity Exercises" involving these new letters; then have students proceed to the "Practice Sentences." If, at the end of the lesson, any students appear uncertain of these functions, provide them with additional practice using the dexterity exercises or practice sentences in this lesson.

LESSON 7

1. Dexterity Exercises

ppp	ggg	yyy	www
pgp	gpg	ywy	wyw
py	yp	gw	wg
pyw	pgw	ywg	ypg
pgyw	pgyw		

2. Practice Sentences

A fat puppy yawned.

Ginny made a floppy poppy.

Many of the frogs were bigger.

Run it up the flag pole.

We flew up to Washington.

The baby played outside in the sun.

Bubbles wiggled through the water.

LESSON 8

Lesson 8 is a review of the function series for Control Key No. 3: U, F, B, P, G, Y, W (functions presented in Lessons 6 and 7). Again, it is important that the students master this series before proceeding further in the "Cybertype" code.

For practice, students should copy the words and phrases in Part 1 of the exercise sheet for this lesson. If the students perform well, proceed to the other parts of the exercise sheet. Part 3 involves words beginning with "un." Ask your students to make up words using letters you have previously taught them.

LESSON 8

1. Copy Words and Phrases

purple	flag down
four	fluffy cotton
ply	big bug
dry	baby buggy
typewriter	wagging tail
Cybertype	playful puppy

2. Type the names of the days of the week.

3. How many words, using the letters you have already learned, can you think of that begin with un? Type them.

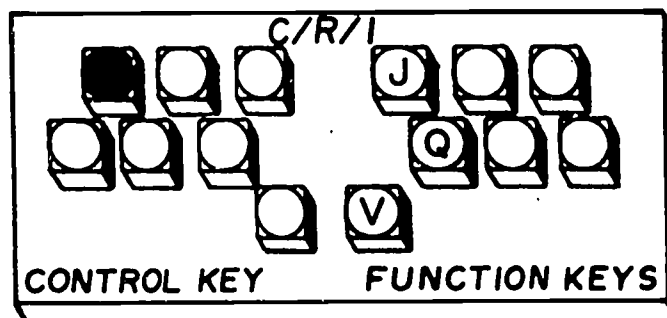
4. Unscramble the letters to make new words.
Type the words you make.

n-a-w-y	(a sign that you are sleepy)
g-p-i	(a farm animal)
w-r-g-o	(to get bigger)
w-g-s-a	(what a happy dog's tail does)
f-u-b-f	(to rub to a shine)

LESSON 9

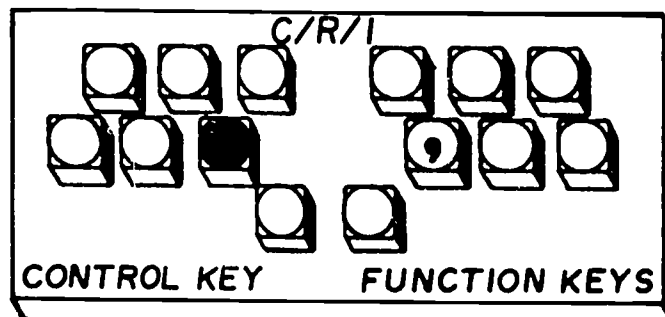
The third "Training Exercise Test" should be administered at the beginning of this lesson. Remember to precede the test with a brief review of "U, F, B, P, G, Y, W."

The functions to be introduced in this lesson are: V, J, Q, and the comma symbol.



Introduce the letters V, J, and Q in the order listed. Allow the students sufficient time to copy the "Dexterity Exercises" involving these three letters. Stress that Control Key No. 4 is used to obtain these functions. The comma should be introduced next. Point out that the comma requires a different control key than that used to produce V, J, and Q. Have students copy the "Dexterity Exercises" including the comma, and continue to the "Practice Sentences" in Part 2.

Part 3 is a creative exercise requiring children to make up words using only the letters in the word "ASTRONAUT." Students usually enjoy the discoveries involved in such "Anagram" word games, and similar language-building exercises may be developed by teachers and students for use as supplementary instructional materials.



TRAINING EXERCISE NO. 3

Long bumpy beds

Franny chews gum.

Frog tripped twice.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No.

1. Location in Cybertyping at end of first minute:

Letter _____ , Word _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 9

1. Dexterity Exercises

v v v	j j j	q q q	
j j j	q q q	v v v	
v j	v q	j v	q v
v j q	v q j	j v q	
j q v	q v j	q j v	v j q
, , ,	, , ,		
v ,	j ,	q ,	
v , j	v , q	j , q	
v , q			

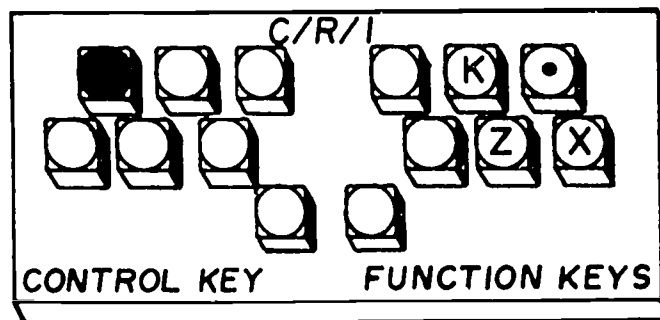
2. Practice Sentences

Joe gave Jane a Valentine.
Jim, it is very quiet here.
Quietly jump over the fence.
Vince visits us every evening.

3. How many words can you make using only the letters in the word ASTRONAUT? Type these words.

LESSON 10

The functions to be introduced in this lesson are: K, Z, . (period), X.



Show the students the keying locations for these functions in the order listed, and allow them time to copy the "Dexterity Exercises." Emphasize the fact that the Control Key No. 4 on the left side of the interface is used to produce these functions. Remind students that they have already learned the keying positions for the period, and give some review practice with this punctuation mark, if needed. Finally, have students complete the "Practice Sentences" in Part 2 of the exercise sheet.

LESSON 10

1. Dexterity Exercises

kkk	zzz	...	xxx
...	zzz	xxx	kkk
kz	zk	.x	x.
k.z	zx	kx	z.
kz.x	kz.x		

2. Practice Sentences

Max and Kathy danced the waltz.

Dr. and Mrs. V. J. Keats were there.

Exit via the next door.

The fox quietly ran past the zebra, the
kangaroo, and the monkey.

A dozen children quickly ran through the
maze of people.

Suzie put six zippers in a box.

The fuzzy kitten sneezed.

LESSON 11

Lesson 11 is a review of the functions introduced in Lessons 9 and 10: V, J, Q, , (comma), K, Z, . (period), X.

Briefly review the keying locations for these functions with the students and have them copy the words and phrases in Part 1 of the exercise sheet. If any students appear uncertain of these functions, provide them with additional practice before proceeding. The students should then complete the exercises in Parts 2, 3, and 4 of the exercise sheet.

Following this lesson, you may want to have the students practice using those exercises from the "Supplementary Materials" Appendix to this Instruction Manual which deal with letters of the alphabet. These exercises will provide a valuable review of Lessons 1-10. Furthermore, the supplementary exercises provide practice with frequently used letter groups and can facilitate "Cybertyping" performance.

Lessons 12-15 introduce the keying locations for numbers and symbols available on the typewriter.

LESSON 11

1. Copy Words and Phrases

buzz	a black kitten
very	a jolly juggler
exit	quit quarreling
walk	a lazy lizard
square	six taxis
zipper	violet velvet
vex	
squeak	
jump	
jam	

2. Type the alphabet. (A, B, C, etc.)

3. Type the names of the months of the year.

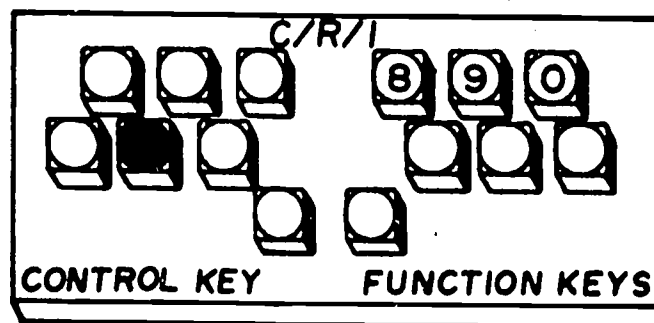
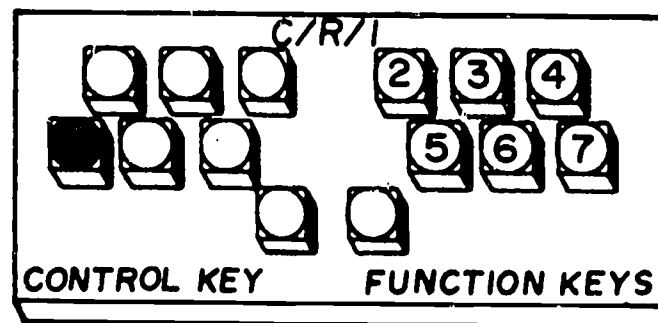
4. Now that you have learned to "Cybertype" all the letters of the alphabet, make up three sentences of your own and type them.

LESSON 12

The fourth "Training Exercise Test" should be administered at the beginning of this lesson. As usual, precede this with a brief review of the functions to be tested. Once the test is completed, introduce the new material in this lesson.

The functions to be introduced in this lesson are the numerals: 2, 3, 4, 5, 6, 7, 8, 9, 0.

The numerals 2 through 7 are obtained with the Control Key No. 7, while 8, 9 and 0 are part of the series for Control Key No. 6.



On some typewriters, it is necessary to use the lower case letter "l" for the numeral "1." Other typewriters will have the numeral "1" (one) as the first function in the Control Key No. 7 series. Be sure to check this on your typewriter and interface before introducing numerals to the students. If your electric typewriter employs the lower case letter "l" for the numeral "1," instruct your students accordingly.

Introduce the keying locations of the numerals to the children, then have them complete the "Dexterity Exercises" and the "Practice Sentences." The numerals are relatively easy to learn because their keying locations are arranged in ordinal sequence. Supply additional practice on the numerals for those students who need it; appropriate exercises may be found in the Supplementary Materials section of the Appendix to this manual.

TRAINING EXERCISE NO. 4

I have a blue jar.

A lazy dog was quiet.

The monkey pinched the fox.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No. _____

1. Location in Cybertyping at end of first minute:

Letter _____, **Word** _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 12

1. Dexterity Exercises

1 2 3 4 1 2 3 4
5 6 7 8 9 0
1 2 3 4 5 6 7 8 9 0
10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0
25 34 16 78 90
57 41 63 829 0
0 1 2 3 4 5 6 7 8 9 10

2. Practice Sentences

Mother needs 2 loaves of bread and 4
quarts of milk.

I will be ready on the count of 3.

There are 7 bananas in this bunch.

A dozen is the same as 12.

John has 56 marbles, and Ken has 98 marbles.

In a countdown, 0 is the last number.

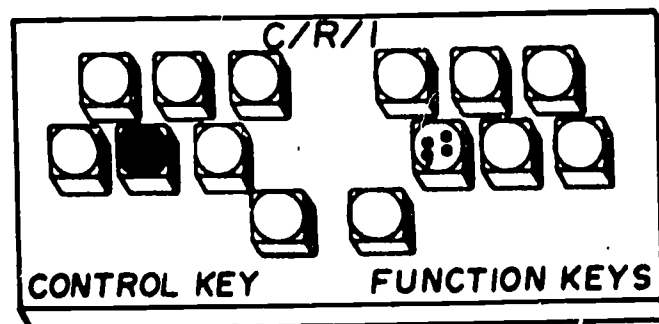
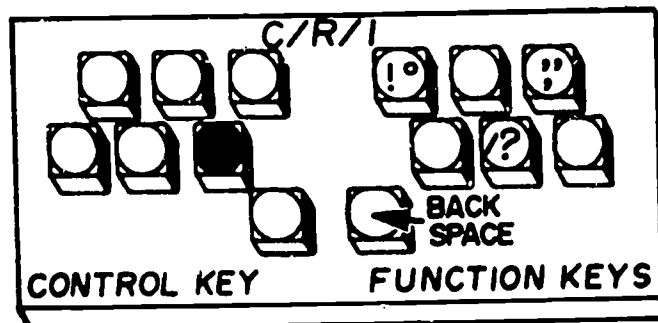
1 2 3 4 5 6 7 8 9 10, ready or not,
here I come.

LESSON 13

Briefly review the numerals, then administer the fifth "Training Exercise Test." Present the new materials in this lesson once the test is completed.

Lesson 13 introduces the frequently used punctuation symbols which have not been taught previously. These symbols are obtained with the Control Keys. No. 5 and No. 6.

The functions to be introduced in this lesson are: / ? ' " backspace ! ; :



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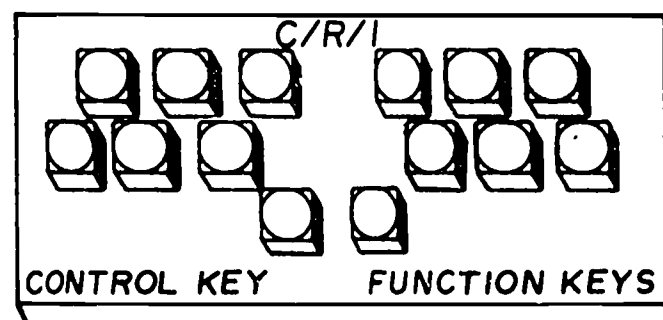
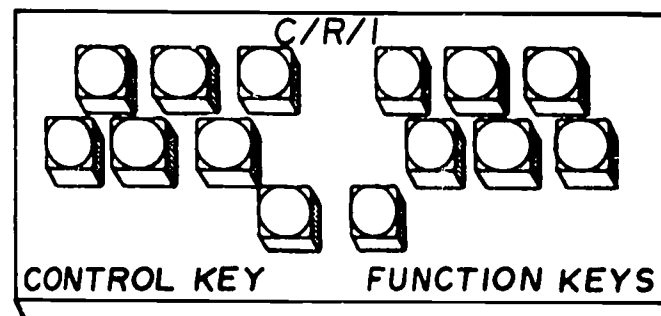
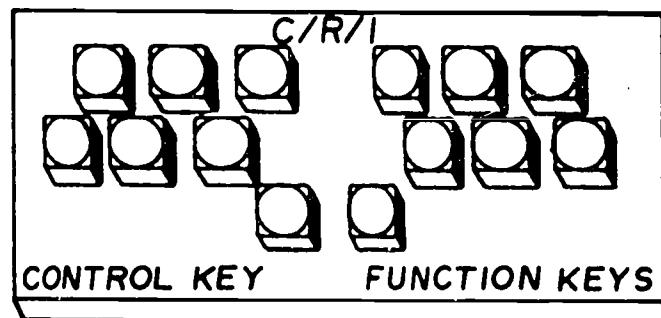
Introduce the symbols obtained from the fifth and sixth Control Keys in the order given above. It may be necessary to explain the significance of these symbols to some students. Several of these functions are located in upper case as shown in the preceding illustration.

After introduction of the symbols, students should complete Parts 1 and 2 on the exercise sheet. If necessary, provide additional practice using Supplementary Materials in the Appendix.

Some punctuation symbols are not introduced in this Instruction Manual because they are used so infrequently. These symbols include: * () @ # \$ & %

If an individual student needs to type any of these symbols, the keying locations can be identified by referring to the diagrams in Figure 3 of the Introduction (page 7). Since typewriters vary in the key assignments for certain symbols, dual keying positions can be verified in the following manner: (1) Check the numeral keys on your typewriter to find the symbol desired, remembering that the symbols are upper case functions on typewriters; (2) note the dual keying positions for the numeral corresponding to the desired symbol; (3) place the typewriter in Shift Lock (upper-case) position; and (4) type the desired symbol.

If your keying assignments for certain symbols do not correspond with Figure 3 (page 7), fill in the key positions for these functions using the blank charts on the next page.



TRAINING EXERCISE NO. 5

379 minus 379 equals 0.

4 x 6 is 24.

58 plus 1 is not 8.

62 minus 10 is 52.

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No. _____

1. Location in Cybertyping at end of first minute:

Letter _____ **, Word** _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 13

1. Dexterity Exercises

/// ??? ' ' ' " " " ; ; ; : : :

/ ? / ? ? /

' " ' " " ' "

; : ; : : ;

(practice the backspace)

! ! !

/ ? ' " ! ; :

: ' ? / " ; !

2. Practice Sentences

I am here; Dad is over there.

Do you want to come along?

"Ouch! It hurts!" cried Mike.

Ann is 8; Mary is 7.

Buy the following: coffee, cheese, milk,
cookies and/or doughnuts.

Is Nov. 12, 1970, also written 11/12/70?

Begin the letter with Dear Sir:.

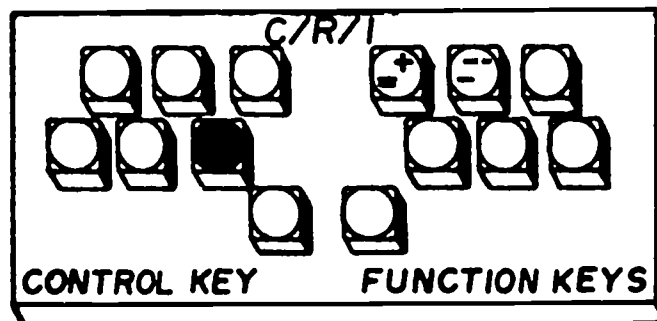
"That's Pam's bike," said her brother.

LESSON 14

The sixth "Training Exercise Test" should be administered at the beginning of this lesson. Precede this with a brief review of the punctuation symbols. Once the test is completed, present the new material contained in this lesson.

This lesson introduces the math symbols. These are obtained with the Control Key No. 5.

The symbols to be introduced are: = + - (minus) (underline). Keying positions for these symbols are shown in the chart below for the IBM "Model C" electric typewriter. IBM "Selectric" typewriters with "Prestige Elite," "Courier," "Letter Gothic," or "Delegate" type styles do not provide the "+" and "=" symbols at all. Check the typewriter assigned to your program to verify positions for these symbols.



As illustrated in the above diagram, + and _ are upper case functions; = and - are lower functions.

For multiplication, the small "x" is used, and a small "d" is suggested for the division sign. The "d" has been chosen to represent "divided by."

Have students complete the "Dexterity Exercises" and the math problem activities on the exercise sheet. Provide additional practice materials for students requiring further assistance.

TRAINING EXERCISE NO. 6

He said, "Is it Al's?"

Oh no; not now!

Dear Sir:

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No. _____

1. Location in Cybertyping at end of first minute:

Letter _____, **Word** _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 14

1. Dexterity Exercises

=== +++ --- ____ (3 underlines)
 =+ =+ +=
 -_ -_ -_
 =_+-
 -=+_
 _=-+
 =+-_ =+-_
 x x d d / /

2. Math Problems

$$1+7=8$$

$$6-2=4$$

$$5 \times 2 = 10$$

$$9 \div 3 = 3$$

14	9	6	24	39	4
<u>+3</u>	<u>-5</u>	<u>x2</u>	<u>+1</u>	<u>-8</u>	<u>x4</u>
17	4	12	25	31	16

$$4 \div 2 = 2$$

LESSON 15

This is the last formal lesson of the Instruction Manual. Begin by administering the seventh, and final, "Training Exercise Test" found on the next page.

The exercise sheet for this lesson consists of suggestions for creative writing. However, for this exercise, children should be encouraged to develop their own ideas in creating stories to be printed using their interfaces.

:

TRAINING EXERCISE NO. 7

$$2+2+4=8$$

$$7-6=1$$

$$5 \times 1 = 5$$

$$9 \div 3 = 3$$

TRAINING EXERCISE TEST

Scoring Sheet

Student's Name: _____

Teacher: _____

Date: _____

Location: _____

Training Exercise Test No. _____

1. Location in Cybertyping at end of first minute:

Letter _____, **Word** _____

2. Total time for completion _____

Note: Attach student's paper to this form and return to C/R/I

LESSON 15

Suggestions for Creative Writing:

Once there was a little boy who loved
(popsicles)...

Once I found...

Once a_____lived deep in the woods...

Once upon a time, long ago, ...

Once there was a family of purple
caterpillars ...

Cybernetics Research Institute

**C/R/I
INSTRUCTION MANUAL**

APPENDIXES

- I. The Cyber-Circus Story Page A-1**
- II. Supplementary Materials Page B-1**

THE CYBER-CIRCUS STORY

Introduction

The following experimental teaching program developed for use with one class of dual-input interfaces is based on the principles of associative learning. One purpose of these instructional materials is to assist the student in learning how to communicate effectively in written form using the various types of interfaces designed for disabled persons.

Experience has shown that the circus story intrigues children and transforms an ordinary learning task to an eagerly awaited event. The Cyber-Circus Story gives meaning and life to each typewriter function and its respective keying positions. Each circus setting or event provides a concrete clue with which the student can associate letters, symbols, and punctuation marks. The story associations impress upon the student the fingering positions for these functions on their keyboards.

Inexpensive, colorful circus models may be built in the classroom, including three tents and the characters in the story. Thus, the story comes alive with animated, purposeful, and associative ideas. Children can also refer to the drawings which accompany the story in this Instruction Manual. Copies of these drawings may be given to young children as a "coloring book," an exercise which will further increase interest in learning to communicate.

The Cyber-Circus Story should be told to the children at the start of the instructional program, before they have even been introduced to their keyboard interfaces. As the story is told, reference can be made to the appropriate drawings or to the circus models, if these are available.

After the entire circus story is read to the children, they will enjoy the daily lessons that follow. During each day's lesson, reference should be made to the appropriate events in the story.

THE CYBER-CIRCUS STORY

"Let's Go to the Circus"

It was spring and the towns people were anxiously awaiting the arrival of their annual circus.

One day, while the Interface children, Eva, Tom and Ann, were returning from school, they saw a man posting circus signs reading, "The Cyber-Circus is Coming to Town."

The children ran home breathlessly to tell their mother, but to their surprise, their mother had big news for them. She said, "Children, I heard that the circus is coming to town so I hurried downtown and bought tickets for Saturday." Eva, Tom and Ann clapped their hands and shouted with glee, "Hurrah for Mom." "Wait," interrupted their mother, "I have another surprise for you. Each of you may go downtown and buy one thing to take with you on the bus to the circus grounds."

Early Saturday morning, the children went downtown. Eva bought Oatmeal cookies, Tom bought Nuts and Ann surprised every-one with a cup of Ice cream which she kept in the freezer until the bus left for the circus.

E T A
O N I

The bus left at noon and the Interface family was all ready to go. Eva boarded the bus first, then Tom, and Ann followed. Mother took the front seat directly behind the bus driver. The bus driver was a very kind and understanding young man for he permitted their dog to occupy the last seat in the bus if he did not cause a disturbance.

When the bus reached the circus grounds, there was a smell of sawdust and canvas in the air. The big Circus Parade was in progress. Many bands were playing their loudest. A steam organ with its steam whistle pipes, mounted on a red, white and blue wagon, delighted the children. Huge elephants, little elephants, and elephants with funny hats followed holding each other by the tail and swinging their trunks to the organ music. There were also roaring lions and tigers in fancy circus wagons, camels giraffes, pretty girls riding white horses, a bear on a motorcycle,

and clowns—fat ones and thin ones, tall ones and short ones; clowns with red ball noses, big mouths, and bigger shoes, all marching to the "oompah, oompah, boom, boom" of the big brass drum in the band. With the end of the parade, the circus audience readied themselves for a gala day.

"Let us see the shows in the three tents first, children," said mother, "Then we will see all the side shows later." "Look," cried Tom, "There are the three huge tents on the left side of the grounds." "Oh yes," said Eva, "And each tent has a large letter on its banner." "Those letters all mean something," said mother, "Listen to hear what the barker is saying."

A barker wearing a bright green and red striped jacket with a straw hat, and holding a cane was standing on a stool in front of the 'R' tent calling: "Come to the 'R' tent and see three great animals acts. There's a big event in each of the three rings. Hurry! Hurry! Hurry!"

R

The Interface family joined the circus crowd and moved into the tent.

Everyone rushed over the sawdust floors to the bleacher seats. Eva, Tom and Ann were never so happy as they sat swinging their legs back and forth, eating oatmeal cookies, nuts, and ice cream, and blowing up their balloons. Up and down the aisles, men with white coats were selling soft drinks, popcorn, nuts and balloons. The excitement and noise frightened their dog so much that he leaped up on Tom's lap to be safe. The bands were playing and all the circus crowd tapped out the rhythm of the music while waiting for the show to begin.

The barker was now inside the tent and standing on a high pedestal shouting in his megaphone, "Ladies, Gentlemen, and Children! Be seated, as our first act is about to begin." Just then in the first ring, a Camel galloped in briskly with a tall Skinny clown riding on his back. The Camel shook, kicked, and tried furiously to shake Skinny from his back. Skinny flew from side to side, up and down the Camel's humps, and almost fell off at times, but he managed to stay on. "How can he possibly stay on?" said Tom. "Hold on Skinny," shouted the entire audience, "Don't give up." Skinny won. When the act ended, Skinny, the clown, waved to the children as he rode out of the ring.

S
C

At the height of all this excitement, a tall green Ladder was being set up in the second ring. All of a sudden, a little Hen fluttered into the second ring and landed on the first rung of the Ladder. She fluttered and struggled as she climbed up the Ladder. "Oops," cried the audience when the Hen almost toppled over. Everyone held their breath. It took a lot of doing, but the brave little Hen made it to the top of the tall green Ladder. Everyone agreed that this was a great and very unusual act.

H
L

All was quiet as the hen left the ring until a big Monkey in a red velvet suit entered the third ring. The children clapped and clapped for the Monkey. The Monkey gave a great performance doing tricks and turning somersaults. He leaped up on a pole and shinnied up to the top. There he waved his little hat to the children. As he slid down the pole, a fantastic thing happened! Eva, Tom and Ann's dog jumped off Tom's lap, ran down the tent aisle, and into the third ring. He leaped up on the Monkey's back! In a split second, the entire audience was standing on top of the bleacher seats shouting and cheering. The Monkey, taken by surprise, furiously tried to shake the Dog from his back, but the Dog did not fall off. Everyone laughed, as they thought it was a planned act. The Interface family realized that they were in trouble, and Tom ran down to get his Dog. "Hurrah! Hurrah! Yippie!" screamed the children. Then the owner of the circus stopped Tom and said, "Young man, do you realize that this is one of our best acts?" He was so pleased that he hired their Dog and paid Mrs. Interface for the Dog's services and gave the children free circus tickets for the season.

D
M

"Hurry, mother," called the children when all this excitement had subsided, "Everyone is going to the second tent, the 'U' tent." The barker in all his glory was shouting, "Hurry! Hurry! Hurry! See the greatest clown acts in the world. Bear to your left, all you (U) folks and all you (U) children. Don't miss a single act."

U

As the children entered the 'U' tent, clowns were throwing candy kisses to the lucky audience. Tom found ringside seats. When the band stopped, everyone looked to the first ring. In it was a huge blue and red Ball. Suddenly, Flippo clown ran into the ring and leaped on that Ball. His feet traveled like the wind as he rolled the Ball all around the ring, up and down three steps, up and down a steep ramp. The more the audience clapped and

cheered, the faster Flippo rolled the Ball. Finally, he hopped off the Ball and ran out of the ring.

F
B

The band played and many clowns danced outside the rings. Looking at the second ring, Tom discovered that the floor of that ring looked like a roller skating rink. "I bet our next act will be penguins on skates," said Tom. "Nope," answered Ann, "We will now see clowns doing figure skating." No sooner had Ann spoken, when Poppo clown, holding a small Goat by his four feet, skated into the ring. "What a skater," announced the barker, "Folks, please welcome Poppo clown and his Goat. His spectacular act has had world acclaim." The tent was filled with great applause. Poppo performed on his roller skates doing "figure eights" and many stunts while holding tightly to his Goat. The Goat was wriggling and wriggling until he finally got loose and sprinted around the ring. What fun the Goat had running from Poppo. "Get him, Poppo!" shouted the audience. What a skater! What a thrill! What a Goat! At last, Poppo carefully caught the Goat, then skated out of the ring in the midst of thunderous applause.

P
G

The barker moved to ring three and shouted, "Ladies, Gentlemen and Children! You are about to see the only tent in the world that can automatically open its top." What a sight to look up and see the top of the tent folding back. As the top folded back, there was the roar of an airplane. It was a plane with a stunt clown doing very dangerous but thrilling tricks in the air. While people were watching this, a clown carrying a sign saying, "I am Yummy," parachuted from the plane into a Water tank in the center of the ring. It was so sudden that part of the circus crowd screamed while others sat speechless and stunned. The big splash was heard a block away. There was an outburst of applause as "Yummy" climbed out of the Water tank and bowed to the audience.

Y
W

My, how busy the barker was that day! He called everyone to the last tent, which was the 'V' tent. He promised that, although it was the last tent, many surprises were in store for all who attended. "Don't dilly-dally along the way or you will miss Jay clown, our real cowboy clown with his magic rope. Please enter the tent two-by-two; don't crowd; go in an orderly fashion, for the show will not begin until all are seated." Everyone listened, and streams of people entered the 'V' tent, going in two-by-two.

V

When the band stopped playing, Jay clown began twisting and twirling his magic rope in the first ring. With his rope, he formed triangles, squares, circles, geometric forms, and all types of figures with great ease and as a real expert. He left his best trick until last. He was the only clown who could make a perfect letter 'Q' with a rope. Jay clown really made a very good 'Q' on the floor of the first ring.

J
Q

While Jay ran out of the ring with his rope, a large Kangaroo hopped into the second ring in leaps and bounds terrified by a striped Zebra which was chasing her. Frightened, but with no place to hide, the Kangaroo leaped high into the air and jumped right over the Zebra. She jumped over the Zebra again and again. Pretty soon the Zebra was so confused and bewildered that she sat down in the middle of the ring and just looked up at the hopping Kangaroo.

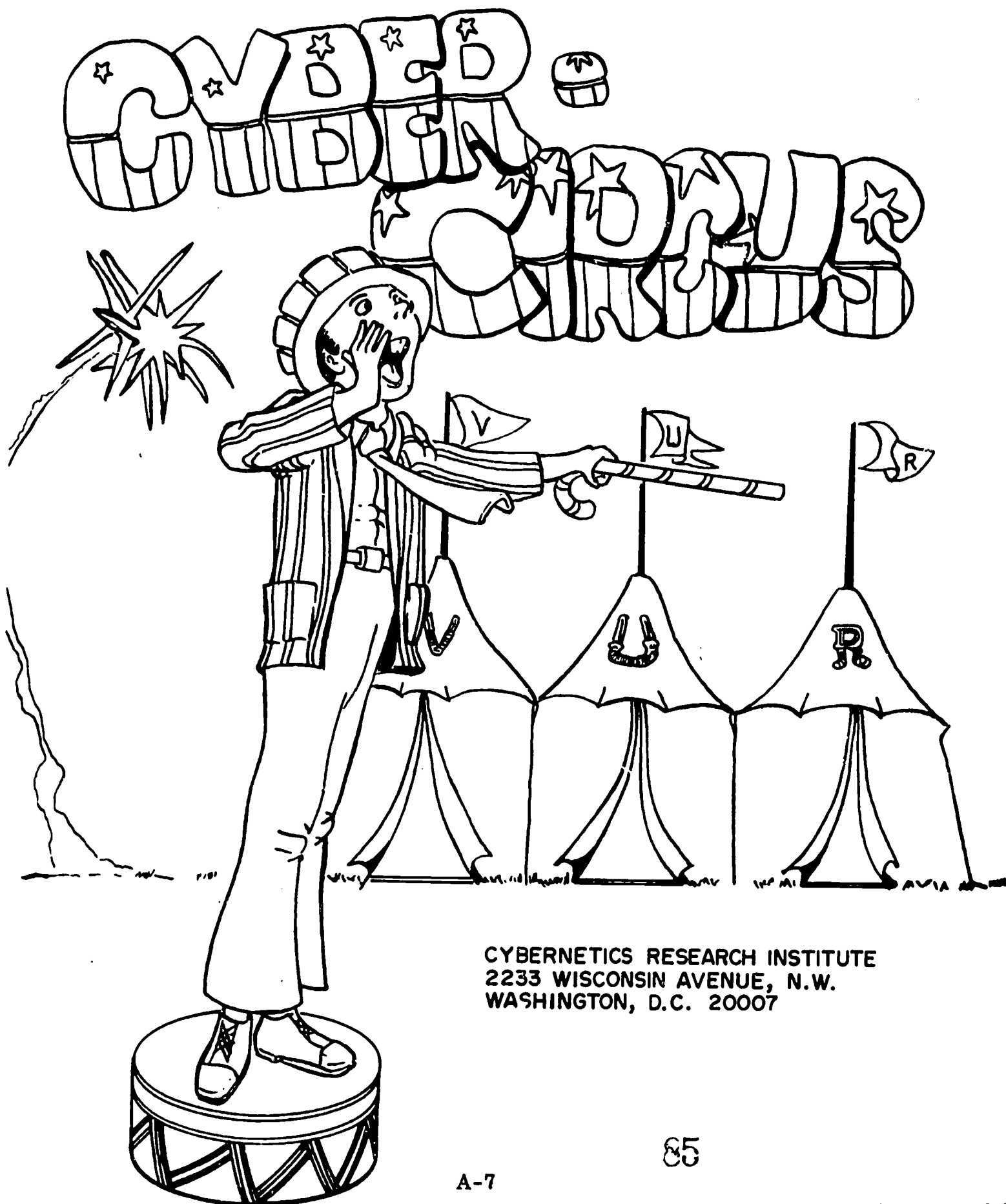
K
Z

Even though the show was almost over, there was much excitement going on in the third ring. Children jumped up on their bleacher seats to see a little girl dressed in a bright red dress with one big dot on the front. The dot looked like the 'period' we use at the end of our sentences in writing. The little girl always wore such a dot on her dress, so they called her 'Dot.' She performed many interesting tricks with her baton. She twirled it over head, between her legs and in every direction. She was really great. Eva shouted, "Hurrah for Dot, I wish I could do as well with my baton." Dot was in ring three which was directly ahead of a stairway leading out of the tent. Dot had an important responsibility in this circus to direct the circus audience out of the 'V' tent to the eXit door. Dot looked so cute as she pointed downstairs to the eXit door.

.
X

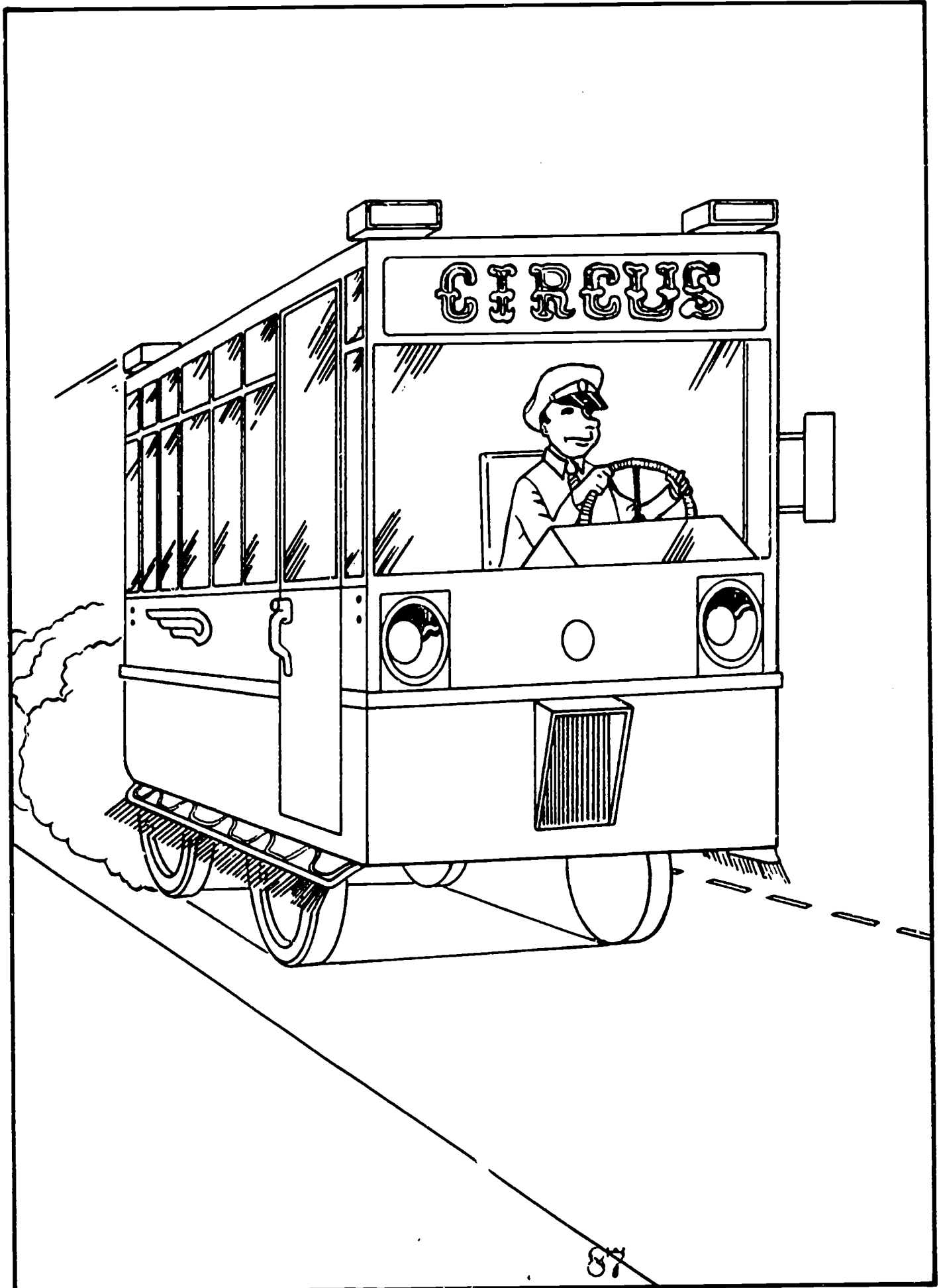
This was the end of the tent shows at the Cyber-Circus. Eva, Tom and Ann and their mother agreed that the barker was right when he announced that the circus was the greatest show on earth.

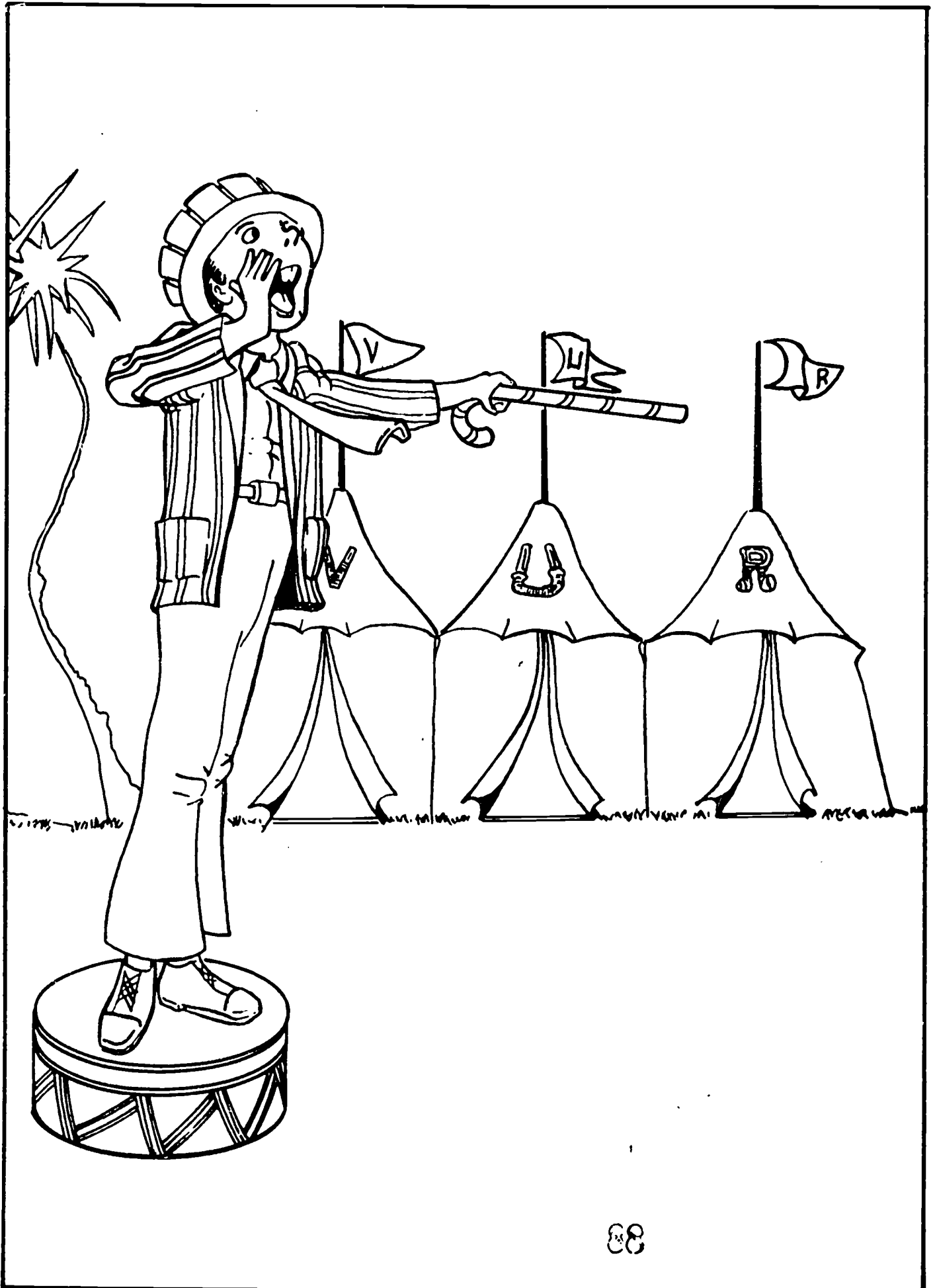
That evening, the Interface family and their famous dog returned home tired but very happy.

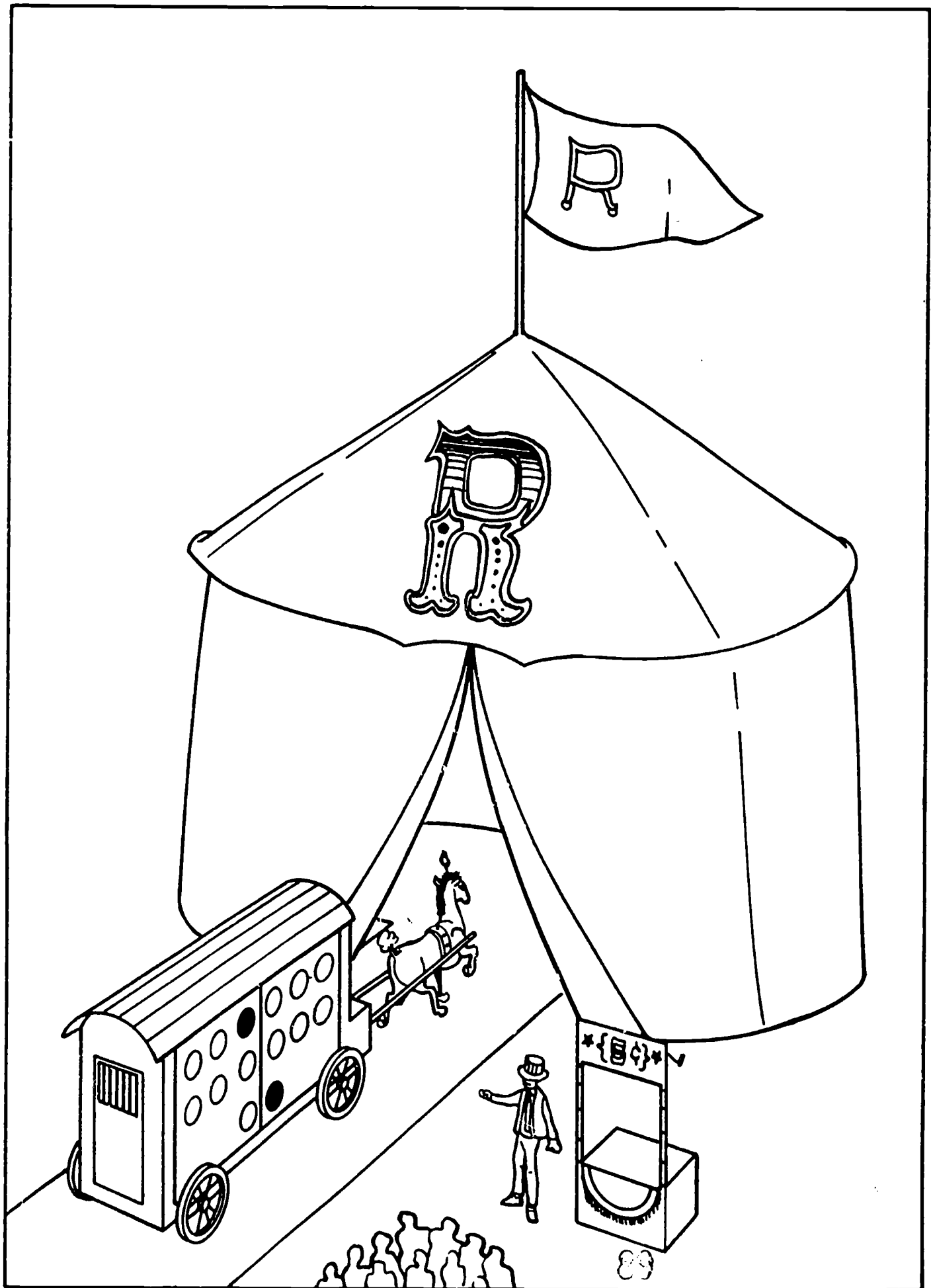


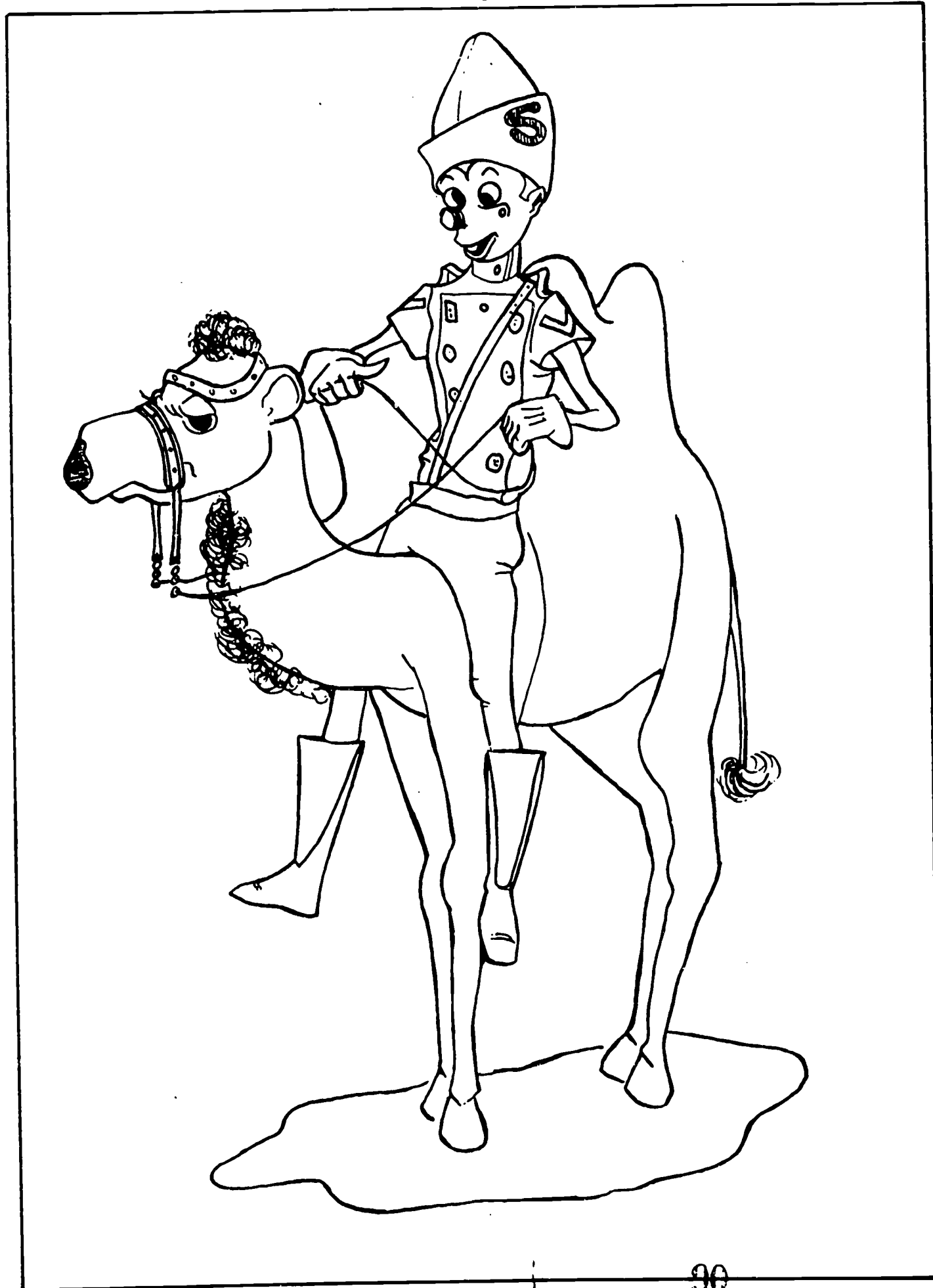
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WASHINGTON, D.C. 20007

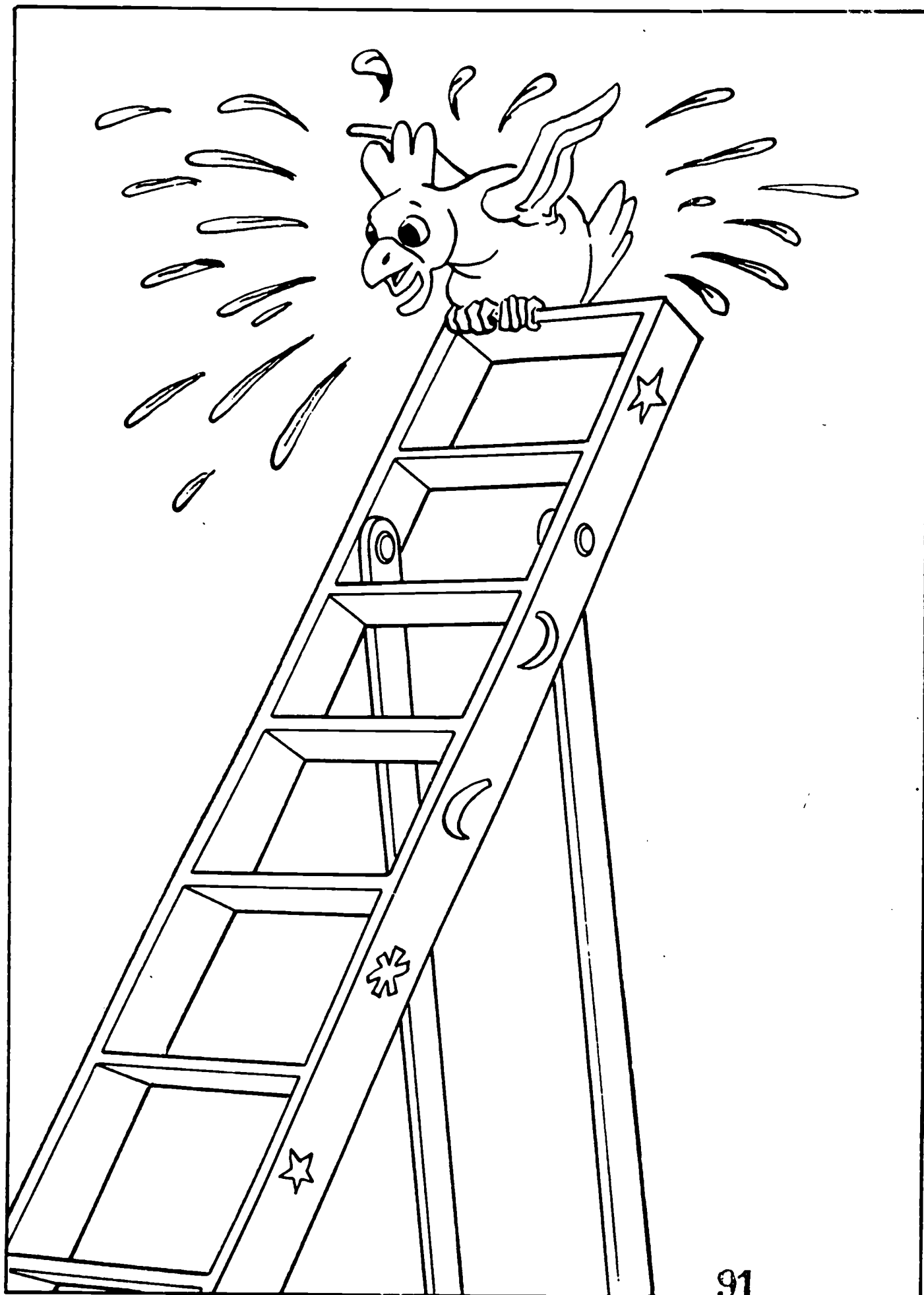


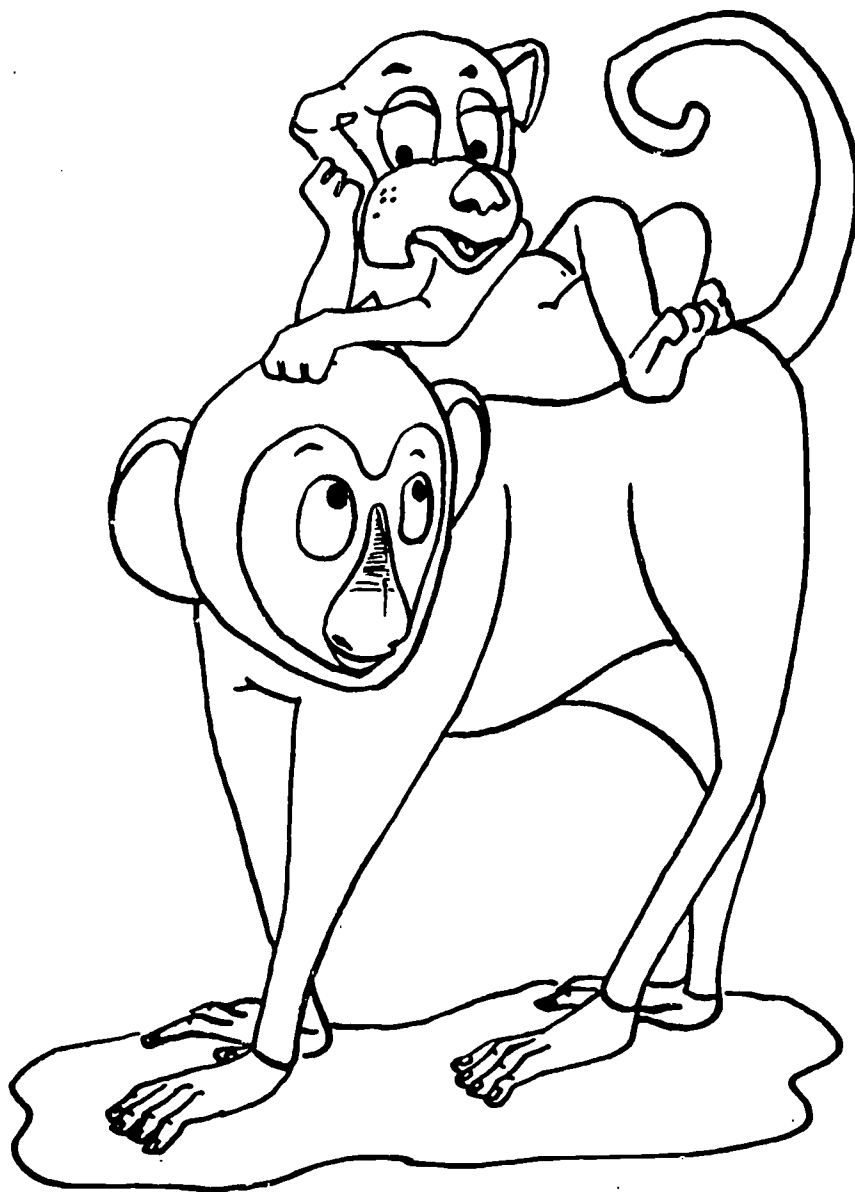


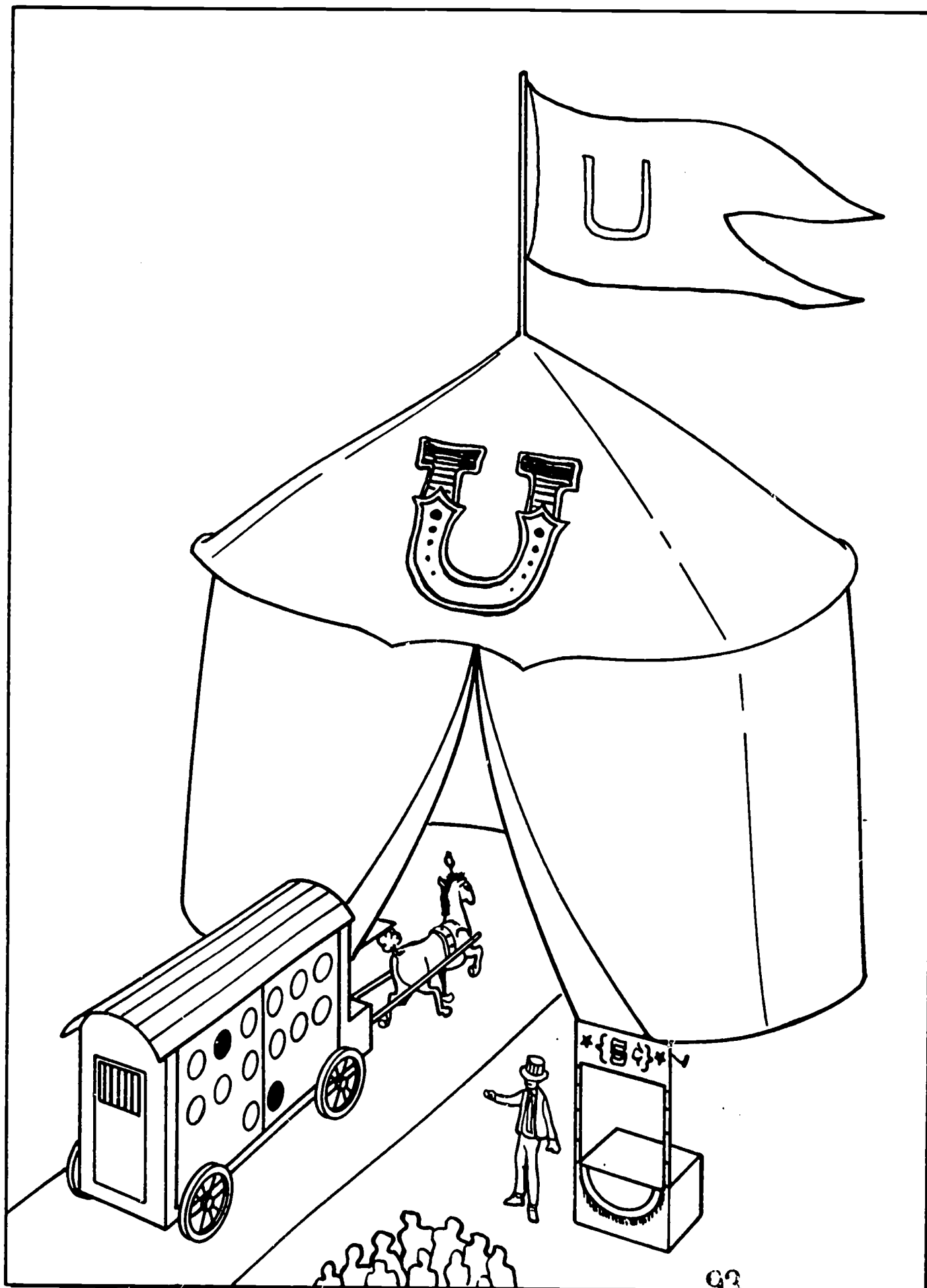


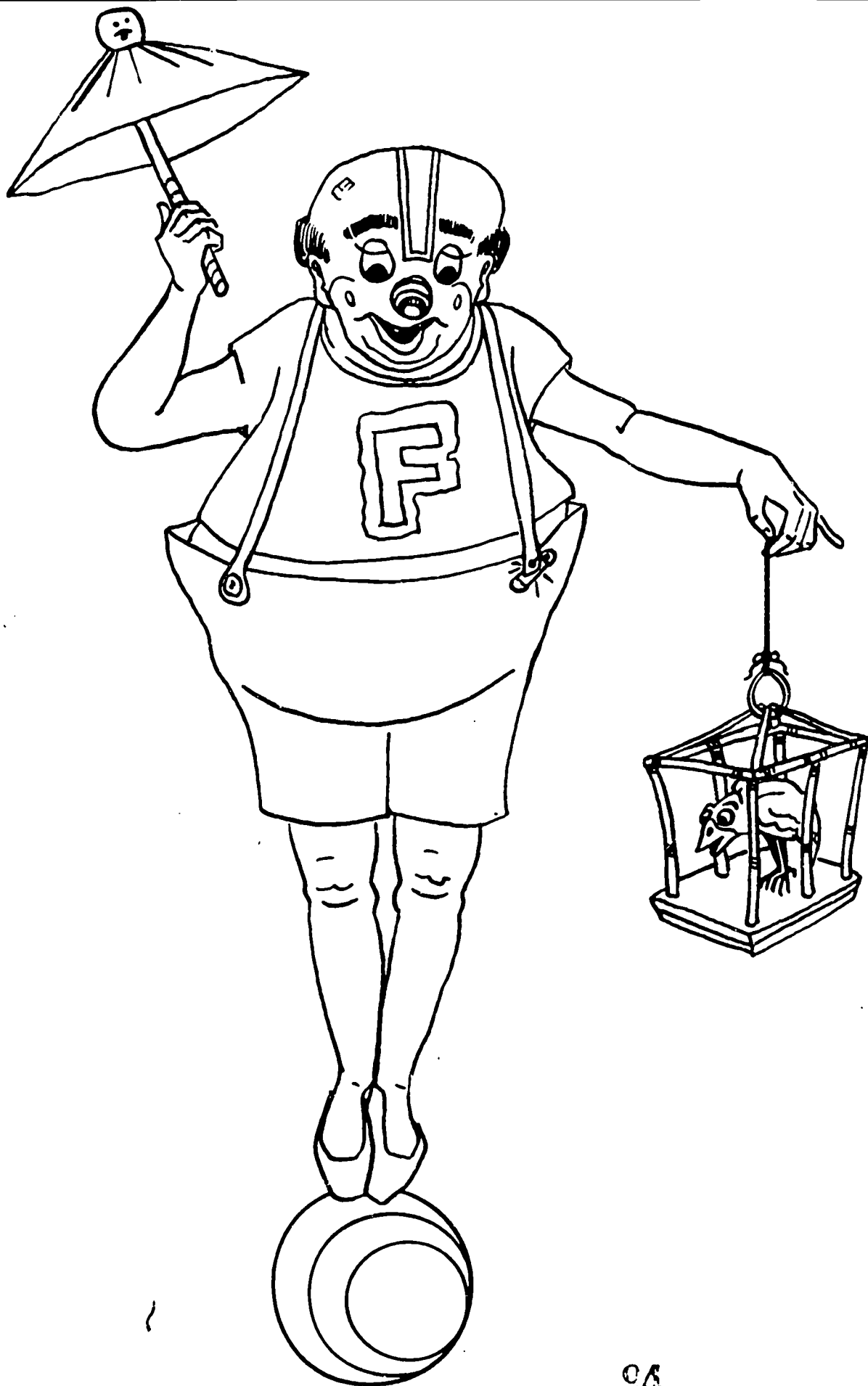




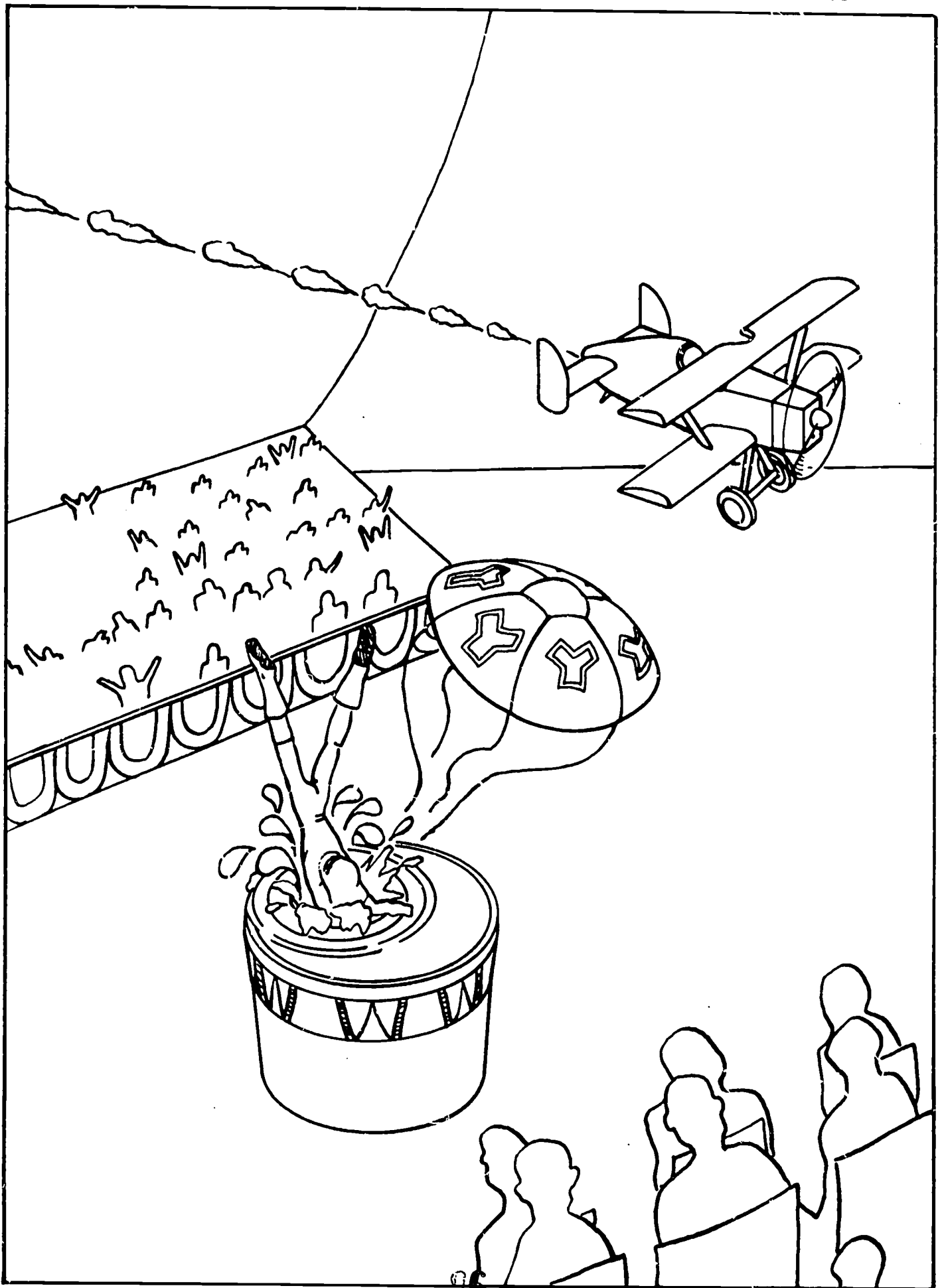


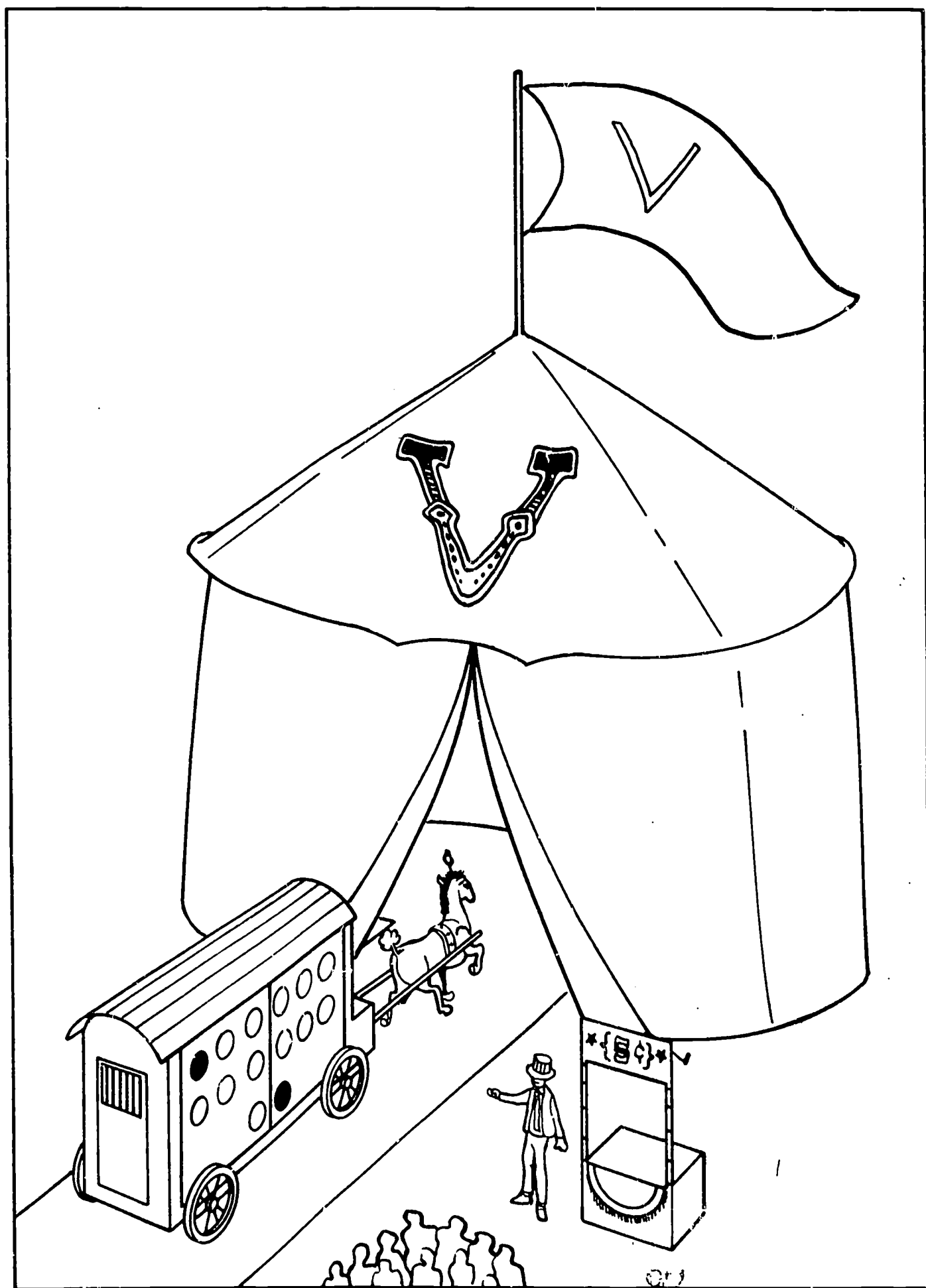




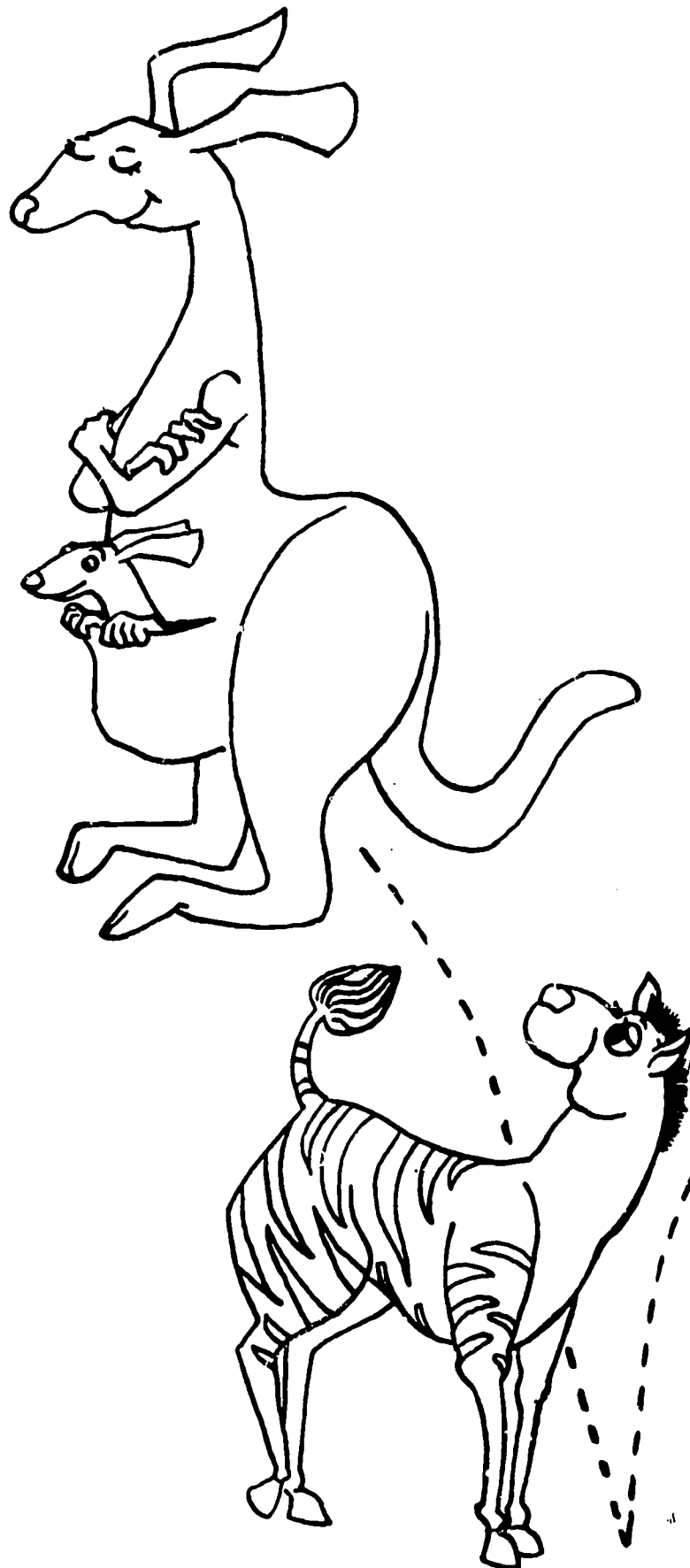


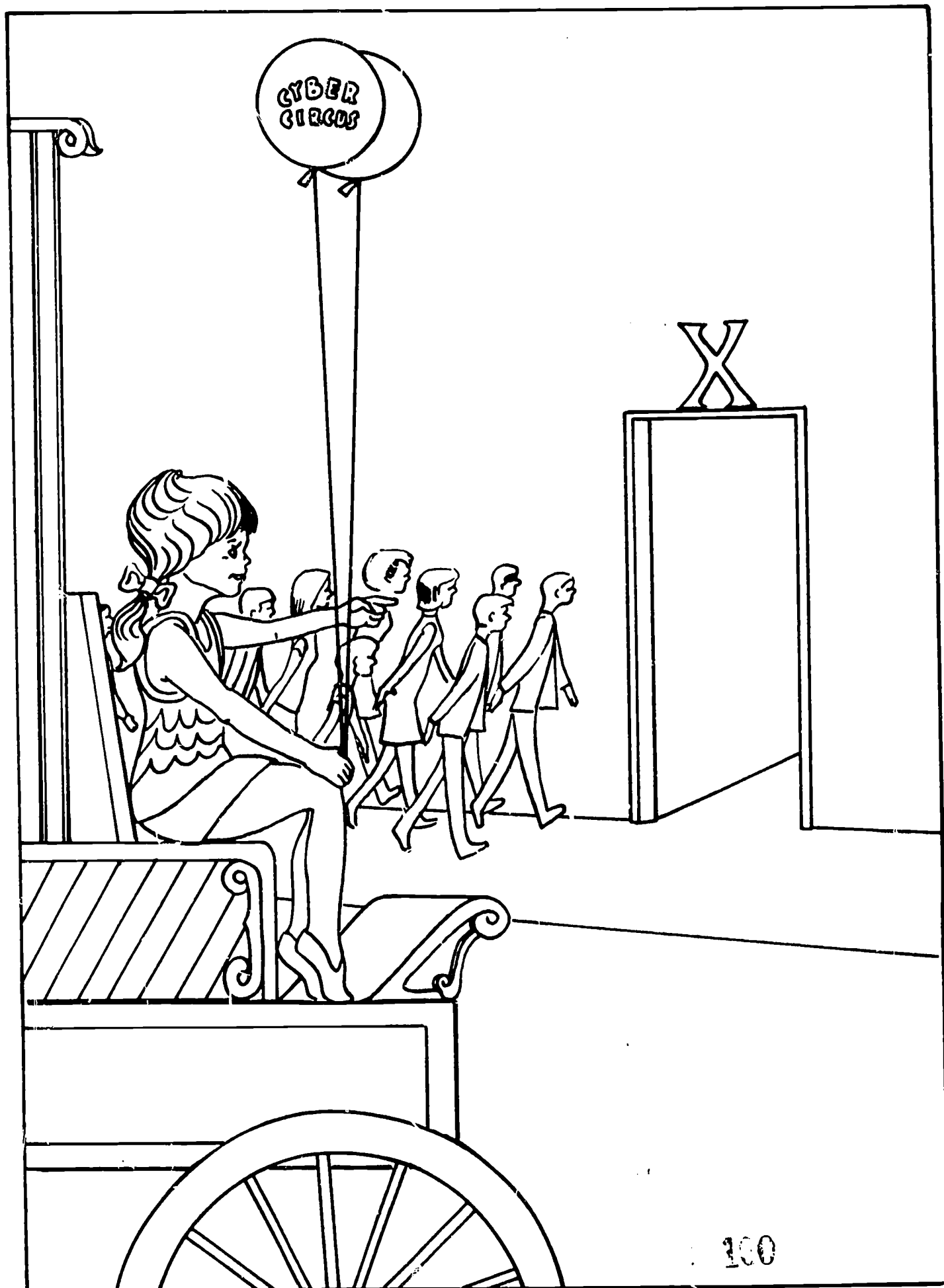












SUPPLEMENTARY MATERIALS

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COPY AND COMPLETION EXERCISES

One, two, and three letter words are used in this particular set of copy materials to provide the student with extensive practice on new letters. Word lists are arranged for each letter group in the "Cybertype" code. Each word list employs letters from its letter group and from those groups previously introduced to the student.

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Letter Group: E, T, A, O, N, I

A	TEA
I	TOE
AT	TIE
ON	INN
IN	ATE
IT	ONE
NO	TIN
TEN	NON
NOT	TAN
EAT	NET
TON	TEE
OAT	ION

Cybernetics Research Institute

Letter Group: R, S, H, D, C, L, M

DID	DAD
SHE	END
RAN	SEA
AND	SEE
HIT	AIR
HER	RAT
HIS	RED
SAD	MEN
HOT	HEN
MAT	LET
MID	LIE
CAT	CAN
COT	DOC
HAD	HAS
THE	CAR

Cybernetics Research Institute

Letter Group: U, F, P, Y, B, G, W

bug	pay
mop	ply
bow	pig
pup	bay
rug	fly
pop	run
wee	gum
bop	wig
mug	bum
cup	fun
out	fat
war	pun
pug	got
boy	sun
buy	pat
gay	pry
top	won

Cybernetics Research Institute

Letter Group: V, J, K, Q, Z, X

van	jag
joy	zig
fox	via
eve	zoo
keg	six
jam	jab
vet	ink
box	qua
vim	kit
jig	tax
quo	vat
zip	ave

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Sample Fill-In Exercises

The following two pages provide examples of fill-in exercises. Similar work sheets may be constructed at your own discretion.

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FILL IN THE BLANKS

Example: I ATE AN ONION

I BOUGHT _____

I BROUGHT _____

I PEELED _____

I COOKED _____

**TYPE THE COLOR WORDS;
THEN COMPLETE THE SENTENCES.**

RED

BROWN

PURPLE

BLUE

GREEN

YELLOW

BLACK

WHITE

ORANGE

WHAT COLOR IS IT?

1. LETTUCE IS _____
2. BREAD IS _____ OR _____
3. BANANAS ARE _____
4. BEETS ARE _____
5. CARROTS ARE _____

Cybernetics Research Institute

Exercises with Common Letter Groups

This section provides copy exercises with words and sentences employing common two- and three- letter groups.

PRACTICE ON THE "AND" LETTER GROUP

and	brand	Andy
band	grand	dandy
hand	strand	handy
land	handle	sandy
sand	sandal	candy
wand		andante

Hand Andy and Sandy a handle.

A grand band landed on the sand.

I sand and sand and sand a handle.

Andy has dandy sandals.

PRACTICE ON THE "AT" LETTER GROUP

at	sat	ate
bat	vat	date
fat	brat	fate
eat	spat	gate
hat	flat	late
oat	that	mate
mat	boat	slate
pat	float	plate
rat		berate

I eat.

A cat spat at the rat.

A cat sat in a hat on a mat.

I hate late dates.

PRACTICE ON THE "ING" LETTER GROUP

king	sting	mingle
ring	string	single
sing	thing	tingle
wing	wring	cringe
fling	finger	fringe
bring	singer	

Bring the king a ring.

My ring finger tingles.

Sing, sing, single singer.

The king is singing and ringing a bell.

Let's go sliding and sleigh riding,

singing while we're swinging.

PRACTICE ON THE "TH" LETTER GROUP

than	third	three	earth
thank	thirteen	thrill	fourth
that	thirty	throat	growth
thaw	this	throw	health
then	thistle	thumb	math
thief	Thomas	thunder	path
thick	thorn	Thursday	strength
thimble	though	bath	truth
thin	through	birth	with
thing	tough	both	wrath
think	threat	death	youth

This is that thin thing.

I think this thimble is thicker than
that thimble.

A thorn in the path threatened the
growth and health and the strength
of the youth.

PRACTICE ON THE "THE" LETTER GROUP

the	theory	bathe	mother
theater	therapy	bother	other
thee	there	brother	rather
theft	these	either	smother
their	thesis	ether	weather
them	they	father	whether
then	another	heather	wither

The cat sat in the hat on the mat.

They like the hat of the other brother.

The ant ate the oat in the hat.

Exercises with Poems and Jingles

This section provides poems and jingles for children to copy. Many children find such poems fascinating, and these exercises provide additional practice in producing repetitive letters and words.

LIONS LEAPING LIONS

LEAPING LIONS LEAPING

LEAPING IN THE GRASS

LEAPING HERE LEAPING THERE

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A MILLION TOMATOES

A MILLION TOMATOES

TOMATOES RED RED RED

I SHALL EAT A RED RED RED
TOMATO

B-17

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A CAT IS A CAT,

IS A CAT, IS A CAT

AND THAT IS THAT, IS THAT

IS THAT IS THAT,

AND THAT IS A CAT,

IS A CAT, IS A CAT,

AND THAT IS THE END OF THAT,

THAT CAT.

A LOOSE TOOTH

IS A SERIOUS MATTER

IN A MEAN ANIMAL.

HE CAN DREAM

A MILLION DREAMS

AND NOT CATCH

A SMALL SMELL OR

TASTE A TENDER MORSEL.

COPY EXERCISES USING COMMON ABBREVIATIONS

MONDAY	MON.
TUESDAY	TUES.
WEDNESDAY	WED.
THURSDAY	THURS.
FRIDAY	FRI.
SATURDAY	SAT.
SUNDAY	SUN.
MARYLAND	MD.
VIRGINIA	VA.
DISTRICT OF COLUMBIA	D.C.
PENNSYLVANIA	PA.
JANUARY	JAN.
FEBRUARY	FEB.
MARCH	MAR.
APRIL	APR.
AUGUST	AUG.
SEPTEMBER	SEPT.
OCTOBER	OCT.
NOVEMBER	NOV.
DECEMBER	DEC.

"CYBERTYPE" WORD LIST

This section provides lists of commonly used words arranged for each letter group in the "Cybertype" code. The order of presentation for letters within each letter group is consistent with the presentation order for letters in the Instruction Manual for 14-key, "Cybertype" dual-input systems. These word lists can readily be used with the 7-key "Cybertype" system, although the presentation order for letters within each letter group differs slightly from that given in this section.

Word lists for each letter are based on other letters in the same group, or on letters in groups previously introduced. After teaching a complete letter group (e. g. , "R, S, C, H, L, D, M"), the word lists for each letter in that series may be used as a source for further practice.

This section is also intended for use in the composition of sentences, and should be particularly helpful in practice and reinforcement of the letter-keying code in the early stages of instruction with the "Cybertype" system.

C

He can catch a cat.

A car can coast.

Cocoa costs ten cents.

Cora can dance the cancan.

A cat can catch a roach.

Richard Rice cheats at cards.

H

She has his hose.

He has thin hair.

He has three shoes.

The hen hit the horse on the shoe.
(Emphasizing THE)

He harnesses his horse at the station.

Cybernetics Research Institute

Letter Group: E, O, T, N, A, I

a
I
at
ate
to
too
eat
tea
toe
toot
an
neat
no
ant
none
noon
not
on
note
teen
in
nit
tie
ten
one
nine
in
it
ion
iota
tint
tent
ton
tan
tin
nation
attention

Cybernetics Research Institute

L

Tell Ellen to call.

A late lad eats less.

Let a child lead the line.

Little Nellie lost her doll.

Tell Tillie a tall tale.

Elsa is a real cool doll.

D

Dad had a red radio.

Hand Dot a dish.

A sad dad had a hot head.

Dad and Ed stand in the sand.
(Emphasizing AND)

The distant dentist does not season his
roast hen.

Letter Group: R, S, C, H, L, D, M

R

air
are
ear
enter
entire
eraser
iron
near
nor
or
rain
ran
rat
roar
root
rotten
tear
tire
tore
torn
train
tree

S

also
as
easiest
east
Easter
interest
is
its
nearest
nest
noise
nose
reason
rest
rinse
roast
rooster
rose
sat
seat
season
sea
see
seen
sent
set
sir
siren
sister
sit
snore
so
soon
sore
stain

C

stairs
star
start
station
stone
store
street
taste
tease
test
toast

accident
ace
ache
across
act
can
cane
cannot
car
carrot
card
care
case
cash
cat
catch
cent
center
chain
chair
chance
chase
cheat
chin
choice
choose
chosen
coal
coat
cocoa
cone
corn
corner
cost
cross

dance
doctor
each
ice
nice
ocean
once
race
reach
rice
rich

M

Mom made me a mitten.

I smell some meat.

Tell him to come home.

Tom marched almost ten miles.

Mrs. Moon made creamed meat.

A calm clam came late.

(Emphasizing C, L, M)

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<u>H</u>		<u>L</u>		<u>D</u>		<u>M</u>	
another	the	all	lesson	ad	radio	am	mine
earth	their	alone	let	add	read	almost	mint
either	then	call	letter	address	red	animal	mirror
hair	there	calm	lie	and	ride	arm	miss
has	these	careless	line	dad	read	came	mom
hat	this	child	lion	dare	rode	chimney	moment
hate	thin	children	listen	date	road	Christmas	month
he	these	chocolate	little	dead	sad	climb	moon
hear	three	circle	load	dear	said	come	more
heart	threat	class	loose	deer	sand	cream	most
heat	tooth	clean	lose	dentist	seed	dime	mother
hen		clear	lost	did	send	dream	Mr.
her		close	lot	die	side	ham	Mrs.
here		cloth	nails	dinner	stand	hammer	name
hi		clothes	old	dirt	stood	him	room
his		cold	real	dish	third	home	same
hit		color	roll	distant	tired	ice cream	seem
horn		cool	sail	do	trade	lemonade	slam
horse		cradle	salt	does	tried	made	small
hose		doll	school	done		mail	smell
hot		dollar	sell	door		mailman	smile
neither		electric	shall	dot		mama	some
north		else	shell	dress		man	sometime
oh		hall	sold	dried		march	stomach
other		hell	soldier	end		matter	storm
rather		hello	steal	had		me	team
share		hill	still	hand		mean	them
she		hold	tail	hard		meat	time
sheet		hole	tall	head		medicine	tomatoes
shine		lace	tell	heard		meet	
shoe		laid	till	hid		melt	
shoot		land	told	hide		men	
short		last		idea		mend	
than		late		indoors		met	
that		later		inside		middle	
		lead		instead		mile	
		learn		need		mill	
		leather		nod		million	
		led		order		mind	

PRACTICE SENTENCES FOR THE
U-F-B-P-G-Y-W "CYBERCODE" SERIES

(Use after the entire series has been introduced)

U

Stu could use us.

The nurse rushed us out.

Cut a rut under our cute house.

Uncle Curt runs around our church each hour.

Let us discuss musical matters.

F

A fat father fans his face.

Find a foot of felt.

Flat feet often fall.

Find Fran a full loaf.

I fear a fish fell off the roof.

Letter Group: U, F, B, P, G, Y, W

<u>U</u>	<u>F</u>	<u>B</u>
about	afraid	automobile
aloud	after	babies
around	afternoon	baby
aunt	calf	bad
cause	careful	ball
church	chief	balloon
circus	different	banana
cloud	face	band
clue	fair	barn
count	fall	bat
course	fan	bath
cousin	far	bathe
cruel	farm	be
cure	farmer	beans
curtain	fast	bear
cushion	fat	beat
cut	father	beautiful
cute	fear	because
discuss	feather	bed
dust	feed	bee
hour	fell	been
house	felt	beer
hundred	fence	before
hunt	field	behind
hurt	fill	bell
lettuce	find	bend
loud	fine	beside
lunch	finish	best
measure	fire	better
minute	first	bicycle
mountain	fish	bill
mouse	fit	bird
mouth	flies	birthday
much	float	bit
muscle	floor	bite

Cybernetics Research Institute

B

Boy babies bite better.

Bill built a blue boat.

Baby Bess bit her rubber rabbit.

Bob rubbed his bruised bottom.

Beer and beans made Mable burp.

P

Pat planted peas in a pot.

Please pass Paul a pail of paint.

Peter sleeps up on top of a piano.

Pam helped Pat peel potatoes.

Pop slipped and dropped his piece of
apple pie.

Cybernetics Research Institute

U

music
muss
must
number
nurse
nut
our
out
outdoors
outside
round
ruin
run
rush
should
shoulder
shut
sound
south
such
suit
summer
sun
sure
thousand
touch
true
turn
turtle
uncle
under
until
us
use

F

food
foot
for
forth
found
four
free
fresh
fried
friend
from
front
fruit
full
fur
furniture
half
herself
himself
if
leaf
left
life
lift
of
off
office
often
roof
self
soft

B

bleed
bless
blood
blue
board
beat
body
bone
born
both
bottom
boy
branch
bread
broom
brother
brush
build
built
bumblebee
bump
burn
burnt
burp
bus
busy
but
butcher
butter
butterfly
button
buy
by
double
habit
lamb
rabbit
remember
ribbon
rob

robin
rub
rubber
table
thumb
tub
umbrella

Cybernetics Research Institute

G

Go get a big bag.

A big ugly pig got angry.

Eggs get bigger in spring.

Gail Higger gets green grape gum.

Angry angels fight grog and eggnog.

Y

Sally yells all day.

Fay can only pay a penny.

Dirty dry crayons made Mary cry.

If you do not pay today you may be sorry.

My city already has a candy company.

W

How now brown cow.

Wild winter winds blow.

We will wash with water.

Willie wants to win a new watch.

Wanda wore a yellow wool wig.

P

airplane	piano
apple	picnic
camp	picture
cap	pie
captain	piece
cup	pin
cupboard	pipe
deep	place
dope	plain
drop	plant
elephant	plate
help	please
hop	point
hope	pond
lamp	policeman
lap	poor
leap	pop(corn)
lip	porch
nap	post
open	pot
pail	potatoes
pain	pound
pair	press
pal	pull
pan	put
pants	shape
papa	sheep
paper	ship
parade	shop
parents	sleep
part	slip
pass	soap
past	space
paste	spoon
pat	spot
path	spread
peach	step
peas	stop
peel	supper

G

again	gate	neighbor
against	get	night
age	ghost	nothing
ago	gift	orange
along	giraffe	page
angel	girl	pig
angry	glad	rag
anything	glass	right
bag	go	ring
bandage	goat	rug
began	goes	sign
begin	going	something
begun	gold	song
belong	golden	spring
big	gone	sting
bought	good	straight
bright	goodbye	string
bring	gorilla	strong
brought	got	sugar
building	grade	though
bug	grain	thought
change	grandfather	through
cough	grandmother	together
danger	grape	tongue
dig	grass	tough
dining	gray	ugly
dog	great	
drug	green	
edge	grocery	
egg	ground	
eight	guess	
engine	guest	
enough	gum	
fight	hang	
finger	high	
flag	hung	
forget	hungry	
forgot	large	
frog	laugh	

PRACTICE SENTENCES FOR THE
V-J-Q-K-Z-X "CYBERCODE" SERIES

(Use after entire series has been introduced)

V

I shave every evening.

Brave beavers love to dive.

Give Victor five heavy gloves.

Eve and Harv have every vote.

I have never lived over a valley.

J

Jane just jumped.

Jolly Jimmy enjoys jam and jelly.

John juggles juicy objects.

Major Johnson joined a banjo band.

Q

Quit quarreling and be quiet.

The quiet queen requires a quilt.

Form a square quickly and quietly.

A squirrel squeaked and squirted squash.

Cybernetics Research Institute

P

pen
pencil
people
pet

suppose
surprise
top

G

gallon
game
garage
garden
gas

leg
light
long
might
morning

Cybernetics Research Institute

K

Jack took his bike back.

Kate kissed her black kitten.

I like to bake cakes and cookies.

Dick picked a peck of pickles.

Z

Bees buzz and zoom lazily.

I need a dozen large size zippers.

The zebra waltzed with the fuzzy bear.

In winter Suzie wheezes and sneezes and freezes.

X

Fix a box for the fox.

Rex will be six next week.

I see six taxis at the next exit.

An anxious axman expects a maximum of
sixteen.

Y

already	today
any	toys
candy	try
city	way
company	yard
copy	year
country	yes
crayons	yesterday
cry	yet
day	yell
dirty	you
dry	sorry
early	stay
easy	story
empty	they
eye	thirsty
family	
fly	
funny	
happy	
hurry	
lady	
lay	
many	
may	
money	
my	
myself	
only	
party	
pay	
penny	
play	
pony	
pretty	
puppy	
ready	
say	
silly	

W

allow	towel	will
always	town	win
answer	twelve	wind
away	twenty	window
awful	two	wing
between	wagon	winter
blow	wait	wish
bow	wall	witch
bowl	want	with
brown	war	without
clown	warm	woman
cow	was	women
crowd	wash	wonder
crown	waste	wood
down	watch	wool
draw	water	word
drawer	we	wore
fellow	wear	world
few	weather	worry
flower	wedding	would
follow	well	wrap
grew	went	write
grow	were	wrong
how	west	yellow
low	wet	sweep
new	what	sweet
now	wheat	throw
own	wheel	tomorrow
pillow	when	why
row	where	wide
sandwich	whether	wig
saw	which	wild
sew	while	
shadow	whisper	
show	white	
slow	who	
snow	whole	
sweat	whom	
sweater	whose	

TOPICS FOR CREATIVE WRITING

(Note: Suggest these topics only after all letters, symbols, and functions in the "Cybercode" have been introduced).

Cybernetics Research Institute

Letter Group: V, J, Q, K, Z, X

V

above
alive
believe
brave
cover
dive
drove
eleven
evening
ever
every
everything
five
gave
give
glove
have
heavy
leave
leaves
live
love
move
never
over
overalls
prove
river
save
serve
seven
several
shave
shiver
stove
twelve

J

jail
jam
jar
jelly
job
join
joy
jump
just
pajamas

Q

quack
quarrel
quarter
queen
question
quick
quiet
quite
square
squash
squeak
squirrel
squirt

Cybernetics Research Institute

Once there was a little boy who loved (popsicles) . . .

One day when Bobby got home from school he found an
enormous _____ on the doorstep . . .

Once upon a time there was a family of purple cater-
pillars . . .

Once I found . . .

Once a _____ lived deep in the woods . . .

Once in a far away land . . .

Once upon a time long, long ago . . .

Deep in the jungle, on the top of a great big tree . . .

Cybernetics Research Institute

K

ask	kiss
awake	kitchen
awoke	kitten
back	knee
bark	knew
basket	knife
beak	knock
bike	know
black	lake
blackboard	like
book	lock
break	look
breakfast	make
brick	mark
broke	market
cake	milk
check	monkey
cheek	napkin
chicken	neck
clock	nickle
cook	park
cookie	peck
crackers	pick
creek	pickle
dark	pocket
drink	rock
duck	sack
fake	shake
fork	shook
handkerchief	sick
joke	silk
keep	skates
kept	skin
key	skirt
kick	sky
kill	smoke
kind	snake
king	socks
	speak

Z

breeze
buzz
crazy
dozen
freeze
frozen
fuzzy
jazz
lazy
prize
puzzle
quiz
raze
size
sneeze
waltz
zebra
zero
zipper
zoo
zoom

X

axe
box
except
excited
expect
exit
fix
fox
mix
next
six
taxi

PERSONAL TOPICS FOR
ORIGINAL WRITING

My friends . . .

My family . . .

My favorite things . . .

My favorite foods . . .

Me . . .

WRITE A STORY.



"CYBERTYPE" PRACTICE SENTENCES

The following sentences are designed to emphasize and reinforce the learning of newly introduced letters. For each letter (with the exception of E, O, T, N, A, I), there are at least four sentences, each sentence using the pertinent letter a minimum of three times, and using with it only those letters from the same "Cybertype" letter group previously introduced.

To further supplement your activities, you may want to compose similar sentences by referring to the "'Cybertype' Word List" in the preceding section.

Note: Where possible, emphasis should be placed on the development of student creativity by encouraging students to compose their own sentences with their "Cybertype" systems, using the sentences in this section as models.

**PRACTICE SENTENCES FOR THE
E-O-T-N-A-I "CYBERCODE" SERIES**

(Use after entire series has been introduced)

E, O, T, N, A, I

I ate at ten.

I eat one onion.

An ant ate an oat.

At noon I eat in a tent.

A neat teen ate a tan onion in a tin.

I note a nation at attention.

WRITE A STORY.



B-47

PRACTICE SENTENCES FOR THE
R-S-C-H-L-D-M "CYBERCODE" SERIES

(Use after the entire series has been introduced)

R

A rear tire tore.

A rat ran under a tree.

Aaron ran near a train.

An iron train ran into a rotten tree root.

I enter an eerie terrain.

S

Teens sit on seats.

Toss Rose a stone.

Roast toast is in season.

Sara Stasson stores onions in a stone seat.

A senior senator starts a sensation.

Cybernetics Research Institute

Imagine . . .

a green froggy all soggy
a sleepy sloth waked by a moth
a turtle gruff in a huff
playing in the hay today
having peanut butter on your shutter
a hug from a bug

Use your imagination to "Cybertype" a story about one
of the above topics.

Cybernetics Research Institute

Imagine that the following things have happened to you.
Tell what you did.

What happened when you clucked at a duck?

What happened when you bonged on a gong?

What happened when you slipped on a ship?

What happened when you got muddy with a buddy?

Cybernetics Research Institute

What would we see if . . .

we visited the zoo?

we went to a farm?

we went to a supermarket?

we went to a theater?

we toured an art museum?

we went to school?

we went to the beach?

we visited your house?

B-50

Cybernetics Research Institute

What would happen if . . .

everyone in the classroom talked at once?

the clock in your house didn't work?

you left a dog and some hamburger alone in
the same room?

someone brought a little snowman into the
room and set it on his desk?

everything fell up instead of down?

the bell at the end of your recess period didn't
ring?

the sun continued to shine all night long?

CREATIVE ANSWERS

Think of and list 5 things you could do with . . .

a paper napkin

clothespins

a long piece of wire

a catalog

a wash cloth

a big box

a tiny box

toothpicks

a magazine

an old plastic tablecloth

a twig

a hook

a piece of rope

a paper clip

empty orange juice cans

marshmallows

CREATIVE ANSWERS

List all the things you can wear on your hands.

List all the things you can wear on your feet.

List all the things you can think of that are red.

List all the things you can think of that are hot.

List all the things you can think of that are shaped like a triangle.

List all the things you could do with your nose.

Cybernetics Research Institute

LANGUAGE BUILDING EXERCISES

(Note: These exercises should be used only after children have learned the entire letter-keying code).

B-54

SYNONYMS

Synonyms are words that have the same meaning.

Type these sentences using a synonym for the underlined word.

Example: That woman is my mother.

Answer: That lady is my mother.

1. I gave the letter to the postman.
2. My dad went to work.
3. Joe cannot find his galoshes.
4. The lad is ten years old.
5. The sunset was pretty.
6. The puppy ran across the street.
7. The bird flew toward the nest.

ANTONYMS

Antonyms are words that have opposite meanings.

Here is a list of paired words. Some are opposites (antonyms) and some are not. Choose the antonym word groups and type them.

Example: work, play

Answer: work, play

Example: tiny, wee

Answer: (do not type anything)

1. hot, cold
2. fish, feet
3. big, little
4. fast, slow
5. fun, games
6. angry, happy
7. cry, weep
8. white, black
9. dry, wet
10. all, none

HOMONYMS

Homonyms are words that sound alike.

Type the words that sound alike in each set.

Example: bore, born, boar

Answer: bore, boar

1. fur, for, four
2. your, our, hour
3. to, toe, two
4. mane, main, mean
5. soar, sour, sore
6. so, sew, sue
7. sun, sin, son
8. at, ate, eight
9. see, so, sea
10. scene, son, seen

Cybernetics Research Institute

How many words can you type
using only the letters in the
word DICTIONARY?

Type them. (You may use
the same letter more than
once.)

Cybernetics Research Institute

How many words can you type
using only the letters in the
name CHARLIE BROWN?

Type them. (You may use
the same letter more than
once.)

Cybernetics Research Institute

Which month is it?
(Type your answer.)

January

February

March

April

May

June

July

August

September

October

November

December

How many words can you type using only
the letters in the name of this month?
Type them.

B-60

COMPLETE THE RHYMES

ON THIS PAGE

Worms wiggle.
Girls _____.

Sheep sleep.
Lions _____.

I climb a tree
To see the _____.

He will float
Beside the _____.

I sat on a ledge
To cut the _____.

He sat still
As he rode down the ____.

I have a rock
In my _____.

I like jam
With my _____.

See the locks
On the _____.

It has a crack
In _____.

Quick kittens
With muddy _____.

It was a joy
To see the _____.

WORD BUILDING EXERCISES

Form words by using the following letters to fill in the blanks.

t n r s h d c l m

_in

_at

_ate

_in

_at

_ate

_ain

_an

_oat

_ain

_an

_oat

_ot

_eat

_ean

_ot

_eat

_ean

_one

_am

_eam

_one

_am

_eam

COMPLETION EXERCISES

Complete the last word in each line, and type the sentences.

1. Mother has a pretty r _____.
2. Bob plays with his d _____.
3. Susan can read a b _____.
4. Tom works with a s _____.
5. Jack wants a b _____.
6. Larry rides in a c _____.
7. Tom can fly his k _____.

"B" WORDS

Arrange and type these words in alphabetical order.

bike

bird

barn

ball

bat

bear

book

bed

Copy these sentences; fill in the missing words from the list above.

1. You sleep in a _____.
2. Cows live in a _____.
3. You read a _____.
4. You may find a _____
in the zoo.
5. You hit a ball with a _____.
6. The boy rides his _____.
7. A _____ can fly.

"K" WORDS

Think of a word that begins with "K", and type your answer.

1. It is a girl's name. _____
2. It can fly high on a windy day. _____
3. It is soft and small. _____
4. It can jump very far. _____
5. You can unlock a door with it. _____

"L" WORDS

Type only the names of things that grow, choose them from this list.

leaf

letter

laugh

lamp

lock

lamb

light

lion

leg

"L" WORDS

Type only the names of things that grow, choose them from this list.

leaf

letter

laugh

lamp

lock

lamb

light

lion

leg

Cybernetics Research Institute

What goes with this word?

shoes

bread

mother

sister

hot

sun

fork

bacon

cat

cake

work

B-67

NUMBERS AND MATH SYMBOLS

(Note: These exercises are to be used
only after students have learned the entire letter-keying
"Cybercode.")

Cybernetics Research Institute

1. Number Practice

1	2	3	4	5	6	7	8	9	10
10	20	30	40	50					
60	70	80	80	100					
91	28	73	46	50					
1950	1960	1970							

2. Number Sentences

1 and 1 are _____

2 plus 3 is _____

4 minus 2 is _____

Today is _____
month day year

Cybernetics Research Institute

Count to ten:

— — — — — — — — — —

ADDITION:

$1 + 1 = \underline{\quad}$

$1 + 2 = \underline{\quad}$

$2 + 2 = \underline{\quad}$

$3 + 4 = \underline{\quad}$

$3 + 3 = \underline{\quad}$

$5 + 6 = \underline{\quad}$

$4 + 4 = \underline{\quad}$

$7 + 8 = \underline{\quad}$

$5 + 5 = \underline{\quad}$

$9 + 10 = \underline{\quad}$

$6 + 6 = \underline{\quad}$

$7 + 7 = \underline{\quad}$

$8 + 8 = \underline{\quad}$

$9 + 9 = \underline{\quad}$

$10 + 10 = \underline{\quad}$

SUBTRACTION:

$$6 - 5 = \underline{\quad}$$

$$8 - 3 = \underline{\quad}$$

$$7 - 3 = \underline{\quad}$$

$$9 - 2 = \underline{\quad}$$

$$7 - 5 = \underline{\quad}$$

$$3 - 3 = \underline{\quad}$$

$$9 - 8 = \underline{\quad}$$

$$24 - 24 = \underline{\quad}$$

$$24 - 20 = \underline{\quad}$$

$$24 - 4 = \underline{\quad}$$

$$268 - 268 = \underline{\quad}$$

$$268 - 0 = \underline{\quad}$$

$$3895 - 1 = \underline{\quad}$$

MULTIPLICATION:

$$3 \times 4 = \underline{\quad}$$

$$6 \times 4 = \underline{\quad}$$

$$7 \times 3 = \underline{\quad}$$

$$4 \times 5 = \underline{\quad}$$

$$2 \times 8 = \underline{\quad}$$

$$3 \times 8 = \underline{\quad}$$

$$5 \times 1 = \underline{\quad}$$

$$5 \times 7 = \underline{\quad}$$

$$6 \times 6 = \underline{\quad}$$

$$7 \times 4 = \underline{\quad}$$

$$9 \times 5 = \underline{\quad}$$

$$2 \times 3 = \underline{\quad}$$

Cybernetics Research Institute

DIVISION:

$$10 \div 5 = \underline{\quad}$$

$$8 \div 4 = \underline{\quad}$$

$$9 \div 3 = \underline{\quad}$$

$$12 \div 3 = \underline{\quad}$$

$$21 \div 7 = \underline{\quad}$$

$$15 \div 3 = \underline{\quad}$$

$$32 \div 4 = \underline{\quad}$$

$$4 \div 1 = \underline{\quad}$$

$$20 \div 5 = \underline{\quad}$$

MATH PRACTICE:

$2 + 4 = \underline{\quad}$

$3 + 7 = \underline{\quad}$

$10 + 5 = \underline{\quad}$

$4 \times 2 = \underline{\quad}$

$6 \times 3 = \underline{\quad}$

$29 \times 1 = \underline{\quad}$

$32 - 2 = \underline{\quad}$

$49 - 9 = \underline{\quad}$

$26 - 6 = \underline{\quad}$

$6 \div 3 = \underline{\quad}$

$10 \div 2 = \underline{\quad}$

$16 \div 4 = \underline{\quad}$

$$\begin{array}{r} 25 \\ +33 \\ \hline \end{array}$$

$$\begin{array}{r} 400 \\ +200 \\ \hline \end{array}$$

$$\begin{array}{r} 444 \\ -222 \\ \hline \end{array}$$

$$\begin{array}{r} 869 \\ -634 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$$

Cybernetics Research Institute

Place the Correct Math Symbol in the Circle:

2 2 = 4

6 1 = 7

10 9 = 1

8 4 = 2

3 4 = 12

10 1 = 11

7 5 = 2

24 24 = 0

5 6 = 11

14 + 0 14

15 5 = 3

9 + 2 11

LETTERS, PUNCTUATIONS,
AND NUMERALS

INTEGRATION EXERCISES

The copy exercises on the following pages employ all the functions taught in the "Cybertype" code. Each function is used at least twice, while the more common functions are used repeatedly.

Cybernetics Research Institute

eotnai rschldm ufbpgyw vjqkz.x

(Sp)ruv esfj ocbq thpk

nlgz ady. imwx

1234 4321 567 765 890 098

0 1 2 3 4 5 6 7 8 9 10

5 24 361 7000 89

/ ? ' " ; : ! ? ! " ; / : '

= + - _ x d .. + - =

Cybernetics Research Institute

Isn't Joe's dog lost ?

Aunt Mary said, "Happy Birthday!"

Twenty-three men, women, and children came to the party.

$342 - 342 = 0$

Men landed on the moon on 7/19/69.

The electric lamp was invented January 27, 1880, by
Thomas A. Edison.

$10 + 2 = 12$; $11 + 1 = 12$

The quick king waltzes very exuberantly.

Dear Sir:

Cybernetics Research Institute

Shopping List:

2 loaves of bread

3 boxes of cereal

4 quarts of milk

5 bananas

6 eggs

7 slices of ham

8 oranges

Cybernetics Research Institute.

I have chocolate, vanilla, and strawberry;
which do you want?

Do you want nuts too?

Yes, please.

Thank you, Mrs. Sands.

Cybernetics Research Institute

This is another way to write a date. It is shorter and uses only numerals.

Using January 26, 1972 as an example, follow Steps 1 through 5 to write it the short way on your 'Cybertype.'

- Step 1: January is the first month; call it "1."
- Step 2: Make a slash.
- Step 3: Put the numeral date of the month (26).
- Step 4: Make another slash.
- Step 5: Then type the last 2 digits of the year (72).

Answer: 1/26/72

How would you write February 14, 1965, the short way?

Type today's date the short way.

Type your birthday this way, too.

Cybernetics Research Institute

I am thirsty.

May I have a glass of water ?

Thank you, Mother.

Cybernetics Research Institute

What did Debbie have in her purse ?

She had 2 combs, a mirror, 7 bobbi pins,
6 tissues, and 45 cents.

Cybernetics Research Institute

I can't do that.

Don't touch the hot pot.

"I'm ready," said John.

"Ouch!" yelled Sally.

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= - ' , / + _ " , ? ! ! !

Will you please open the door ?

"I'm ready."

Thank you, Dad.

Hi, Cathy!

Nov. 23, 1970: 11/23/70

My brother is twenty-one!

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"Hello, John!" called Randy.

"How about playing ball?"

John said, "I'd like to, but I can't right now."

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"Which is blue? Joe's book, Mary's pencil, Judy's paper, or Bob's ruler?" asked Miss Mann.

"Bob's ruler!" answered Sue.

"My book is green," said Joe.

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Dear Sir:

This is not the doll that I
ordered. Please send the one that
has red hair.

Thank you.

Sincerely,

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Dear Sir:

This is not the car that I ordered.

Please send the red one that costs
ninety cents.

Thank you.

Sincerely,

B-89

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FREQUENTLY USED TWO AND THREE
LETTER SEQUENCES AND WORD EXERCISES

(These exercises should be used only
after the entire "Cybercode" has been introduced)

The following word lists and practice exercises were developed for use in learning some of the basic phonetic components of words. They include such constructions as frequently used two and three letter sequences, prefixes and suffixes.

Practice with these exercises will not only increase the student's knowledge of and alertness to common phonetic components of the English language, but will also increase his proficiency on the "Cyber-type." The letter groups mentioned herein occur frequently in written language. Practice in typing them can increase accuracy in typed communications by developing skill in the production of commonly occurring letter sequences.

In addition to providing the instructor with extensive word lists employing the above, this section also includes examples of exercises in which the student can use these letter groups to construct words, produce rhyming words, and compose short sentences. To supplement the above, you may choose to construct exercises similar to those included within this section.

WORD LIST

Based on Commonly Used Two-Letter Sequences

<u>an</u>	<u>ar</u>	<u>as</u>	<u>at</u>	<u>bl</u>
band	bar	ask	battle	black
can	card	task	cat	blur
dandy	ear	gas	eat	blimp
fan	jar	has	fat	blot
man	mar	was	hat	blast
panda	oar	mass	mat	blink
ran	par	last	Patty	bleed
sandal	tart	sassy	rats	blue
tanning	ware	grass	sat	blood
van	hard	waste	sat	bleek
wander			vat	block
angry			that	
angle			what	
ant			ate	
<u>br</u>	<u>ch</u>	<u>cl</u>	<u>cr</u>	<u>de</u>
brown	chair	clear	creep	hidden
brush	chap	cloud	crawl	tide
broil	chain	clown	cradle	dead
brew	choke	clap	crash	decide
breed	chope	clip	crept	deal
brine	chill	clock	cream	depart
brisk	churn	close	creek	made
bracket	chow	clans	cringe	idea
brace	chore	class	crab	deck
	cheer	claw	crab	deck
	cheap	clean		deep
				side

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dr

draw
dry
drip
drawn
drizzle
drab
drop
drug
drown
drum
drink

dw

dwelt
dwindle
dwarf
dwelt
dweller

ea

each
eager
peach
meat
heat
eat
neat
beach
beat
early
earn
earth
tea
hear
head
east

ed

fed
led
Ted
red
wedding
begged
looked
edit
ediface

en

dent
hen
mend
pen
pencil
ten
tent
tend
enemy
even

er

her
here
per
era
erg
ere
error
ever
every
very
seer
maker

es

best
essay
mess
pest
horses
porches
lesson
test
press
less
guess

fl

fly
fling
flip
flap
flour
flag
flat
flame
flesh
flea

fr

fry
fringe
freeze
froze
free
fruit
frail
fret
frog
frost

gl

glass
gleam
glare
glaze
glue
glum
glory
glimmer
gland
wiggle

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<u>gr</u>	<u>ha</u>	<u>he</u>	<u>in</u>	<u>io</u>
grip	had	he	in	portion
grill	have	she	into	elevation
grab	hand	the	hinder	traction
grin	having	they	ginger	action
grape	shad	them	fin	section
greet	hamper	there	mind	attention
gray	shall	then	win	diction
green	aha	other	tin	friction
grease	hall	brother	pinned	intention
gripe	hair	here	binge	fraction
	has	her		
		head		
		hero		
		help		
<u>is</u>	<u>it</u>	<u>le</u>	<u>nd</u>	<u>nk</u>
his	it	apple	and	ink
miss	hit	isle	handle	think
sister	bite	lent	band	thank
dislike	smith	let	candy	rink
list	kitten	ale	mend	pink
mist	sit	leader	tend	stink
mister	lit	puzzle	end	rank
hiss	fitted	letter	landing	dunk
listen	write	leap	send	skunk
isle	write	lean	fund	mink
this	itself	leg		link
iris	itch	left		
is	edit	lei		

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<u>nt</u>	<u>of</u>	<u>on</u>	<u>or</u>	<u>ou</u>
ant	of	on	or	ouch
antler	often	onto	nor	our
tent	lofty	one	tore	hour
lent	soft	ton	sore	sour
pant	offer	bone	bore	touch
rant	coffee	onion	for	pouch
mint	toffee	tone	orator	four
went	off	only	organ	pour
month	oftentimes	Monday	poor	out
tint	aloft	cone	forty	your
		once	oral	you
			ore	oust

<u>ph</u>	<u>pl</u>	<u>pr</u>	<u>re</u>	<u>rt</u>
telephone	place	pretty	are	tart
photo	please	present	red	mart
physician	plot	prepare	read	part
physics	apple	prep	ready	start
phonetics	plead	prefix	prepare	flirt
lymph	pleat	prof	treat	cart
phrase	plate	prosper	pretty	dirt
physical	plant	preview	real	shirt
phlox	plaid	prepaid	rare	heart
phosphate	plenty	precede	mare	curt

<u>sh</u>	<u>sk</u>	<u>sl</u>	<u>sm</u>	<u>sp</u>
ship	skate	slip	smear	spell
shall	skip	slide	small	spurt
hush	sky	slap	smart	lisp
sheep	skin	slur	smile	sport
shake	skill	sleep	smack	spring
mush	skirt	slight	smug	spry
shape	skit	slim	smoke	speak
sharp	ski	slumber	smuggle	sprout
shave	skim	slosh	snock	spool
share	skull	isle	smell	wasp
shell	ask		chism	clasp

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<u>st</u>	<u>sw</u>	<u>th</u>	<u>ti</u>	<u>to</u>
stay	swam	the	tin	to
stem	swim	them	till	into
steer	sway	then	until	ton
street	swing	there	time	tough
string	sweet	their	tip	tote
stung	sweep	they	tight	too
strip	swell	other	tire	onto
last	swift	thing	tide	torch
waste	swat	think	tick	total
style	answer	that	ting	tore
first		with	untie	toll
		this		atop
<u>tr</u>	<u>tw</u>	<u>ve</u>	<u>wh</u>	
try	tweed	have	when	
trip	twice	brave	where	
treat	twig	love	what	
trim	twin	wave	why	
trust	twist	save	while	
troll	twelve	dove	white	
trend	twitch	vend	which	
travel	twine	veteran	wheel	
trill	tweezers	vex	whisper	
trial	twitter	vector	whether	
tray	twilight	vermin		
entry		alive		

FOUR-LETTER WORD LISTS

Based on Commonly Used Three-Letter Sequences

<u>ack</u>	<u>ake</u>	<u>alk</u>	<u>all</u>	<u>alt</u>	<u>and</u>	<u>ane</u>	<u>ang</u>	<u>ank</u>
back	bake	balk	ball	halt	band	bane	bang	bank
tack	cake	calk	call	malt	land	cane	fang	lank
lack	fake	talk	fall	salt	sand	mane	hang	rank
rack	lake	walk	gall	alto	wand	pane	gang	sank
pack	make	Salk	hall		hand	sane	rang	tank
	rake		mall			vane	sang	
	sake		tall					
	take							
	wake							
<u>ash</u>	<u>ast</u>	<u>ate</u>	<u>eak</u>	<u>eam</u>	<u>ean</u>	<u>eap</u>	<u>ear</u>	<u>eat</u>
bash	cast	bate	beak	beam	bean	leap	bear	beat
cash	fast	date	leak	team	lean	heap	dear	feat
dash	last	fate	peak	seam	mean	reap	fear	heat
lash	mast	gate	teak	ream	wean	neap	gear	meat
mash	past	hate	weak		dean		hear	neat
rash	vast	late					lear	peat
sash		mate					near	seat
		rate					rear	
							sear	
							tear	
							wear	
							year	

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<u>een</u>	<u>eep</u>	<u>eet</u>	<u>elt</u>	<u>ent</u>	<u>ill</u>	<u>ine</u>	<u>ing</u>	<u>ink</u>
been	beep	beet	belt	bent	fill	dine	bing	link
seen	deep	feet	felt	cent	gill	fine	ding	mink
teen	keep	meet	melt	dent	hill	line	king	pink
keen	peep	keet	pelt	gent	kill	mine	ping	rink
	seep		welt	lent	mill	pine	sing	sink
				pent	pill	tine	wing	wink
				rent	sill	vine	zing	inky
				sent	will	wine		
				tent	bill			
				vent				
				went				

<u>ite</u>	<u>oat</u>	<u>ock</u>	<u>ome</u>	<u>one</u>	<u>ope</u>	<u>ore</u>	<u>ote</u>	<u>own</u>
bite	boat	cock	come	done	cope	bore	note	down
cite	goat	dock	dome	lone	dope	core	rote	town
kite	coat	lock	home	bone	lope	fore	tote	gown
mite	moat	mock	some	gone	mope	lore	dote	sown
life	oats	rock			rope	more	vote	
rite		tock				pore		
		sock				sore		
						tore		

PREFIXES AND SUFFIXES

Prefixes

<u>de</u>	<u>dis</u>	<u>en</u>	<u>ex</u>	<u>con</u>
defeat	disown	enjoy	exact	concur
detour	disobey	enlist	exceed	concede
deform	disagree	enact	excite	conclude
decade	dislike	enroll	excuse	confuse
demerit	disloyal	entitle	exhale	conform

<u>com</u>	<u>in</u>	<u>pro</u>	<u>re</u>	<u>un</u>
complete	inhale	proceed	recall	unable
comply	inside	project	renew	unfit
combine	indent	program	remake	untrue
compound	incorrect	produce	reopen	unlace
compact	informal	prolong	refresh	unpack

pre

preview
precede
prepay
prewar
prepaid

Suffixes

<u>al</u>	<u>ance</u>	<u>able</u>	<u>ive</u>	<u>ful</u>
postal	allowance	suitable	active	careful
optical	assistance	portable	detective	handful
critical	acquaintance	available	defective	painful
comical	disturbance	payable	destructive	helpful
personal	appearance	obtainable	excessive	joyful

Suffixes (continued)

<u>y</u>	<u>tion</u>	<u>ing</u>	<u>ment</u>	<u>less</u>
airy	action	being	payment	careless
rainy	adoption	ending	amazement	useless
rocky	edition	going	excitement	worthless
sleepy	election	earning	employment	helpless
frosty	direction	feeling	pavement	fearless
<u>ness</u>	<u>ly</u>	<u>ous</u>		
blindness	sickly	joyous		
darkness	kindly	dangerous		
likeness	yearly	perilous		
sadness	costly	poisonous		
goodness	lively	pompous		

EXAMPLES OF WORD BUILDING EXERCISES

A
AL
ALL
TALL
TALLY

A
AL
AIL
TAIL
TRAIL

A
AN
PAN
PANE
PANES

A
AN
AND
ANDY
CANDY

A
AN
BAN
BAND
BLAND

A
AN
RAN
RANK
FRANK

A
AS
ASP
RASP
GRASP

A
AT
ATE
LATE
PLATE

A
AT
OAT
GOAT
GLOAT

A
AT
RAT
RATE
GRATE

I
IT
BIT
BITE
BLITE

I
IN
BIN
BING
BINGE

I
ID
SID
SIDE
ASIDE

I
IN
SIN
SINK
STINK

I
IN
TIN
THIN
THING

BE
BEA
BEAR
BEARD

ED
RED
REED
GREED
GREEDY

HE
THE
THEE
THERE

NO
NOT
NOTE
NOTED

ON
ONE
LONE
ALONE

OR
FOR
FORE
AFORE

TO
TOP
STOP
STOOP

RHYMING WORD LISTS

ate
rate
mate
date
plate
grate
state
great
wait

at
sat
mat
hat
rat
that
flat

ton
son
won
done
none
one
fun
pun
sun

in
tin
sin
pin
thin
shin
skin
win
chin

heat
meat
seat
eat
treat
wheat
sweet
meet
tweet

or
nor
tore
bore
door
poor
shore
store
pour
soar
floor

set
net
let
met
pet
fret
bet
wet

dine
line
mine
shine
whine
nine
fine
pine

"AND" WORDS

BAND	BLAND	CANDY
HAND	BRAND	DANDY
LAND	GLAND	CANDLE
SAND	GRAND	SANDAL
WAND	STAND	PANDA
WANDER	STRAND	VANDAL

"ING" WORDS

KING	BRING	FINGER
RING	FLING	SINGER
SING	STING	MINGLE
WING	STRING	SINGLE
	THING	TINGLE
	WRING	

SENTENCES EMPLOYING COMMONLY
USED TWO-LETTER SEQUENCES

The clown slid and stumbled.

When the floppy-eared, brown hound growled,
the children laughed with glee.

The clapping stopped short.

Ernest dropped in while you were talking on
the phone.

Place your phosphate on the table.

Creepy, crawly creatures went winding around
the trees.

He is silently sleeping.

Twelve of them have teeth.

COMMON-KEY EXERCISES

(These exercises are to be used only
after the entire "Cybercode"
has been taught)

COMMON-KEY LETTER COMBINATIONS

The following are letter combinations in which the fingering of the "Cybertype" code changes for only one hand. That is, in typing these letter combinations, the same key is depressed for each letter within a specific group (i. e. Control Key No. 1 is depressed for all combinations within Group A; Control Key No. 2 is depressed for all combinations within Group B, etc.)

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Common Left-Hand (Control) Key

<u>Group A</u>	<u>Group B</u>	<u>Group C</u>
eo	sc	uf
et	sh	ub
ot	sl	ug
nt	sm	up
at	ch	gu
it	cl	pu
ai	dr	fu
in	rd	bu
ni		fy
ti		by
to		py
an		gy
te		
en		
on		
no		
tion		

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The following is a series of letter combinations in which a common right-hand key is depressed for each group of paired letters (i.e. for "ur," right-hand key No. 1 is depressed for both letters; for "co," right-hand key No. 5 is depressed, etc.).

Common Right-Hand Key

ur	th	ad
es	ph	ay
ef	ng	day
co	ln	im
ob	gl	wi
oc	da	mi
		ix